COMPUTER GAMING WORLD

VOL. 3 NO. 2

MAR.—APR. 1983

$2.75



100+ Games Rated

FIRST, SSI GAVE YOU GALACTIC GLADIATORS.™ NOW WE BRING YOU GALACTIC ADVENTURES.™



When we first introduced **GALACTIC GLADIATORS**™ — a strategy simulation of cosmic combat — it didn't take long before it became one of our bestsellers. And no wonder; it had the perfect script crammed with fast-paced action, fun and excitement. Using Hi-Res color graphics, it created an alien setting filled with wild and bizarre creatures shooting it out Western style. Except instead of guns, they're armed with phasor rifles, laser swords, the Death Touch, and other exotic weapons!

Now we are proud to present its sequel — **GALACTIC ADVENTURES**.™ More than a game of tactical battles, it is a full-fledged science-fiction, role-playing adventure strategy simulation. It starts out by taking you to a space port of an alien planet. As a stranger in a strange land, you must go into the Streets to get combat experience. And what better way than by getting into a few fights? You must also learn assorted Advanced Skills (such as Noetic Logic, Linguistics, Star Piloting, Lockpicking), earn some money and recruit fellow adventurers to join you. Only then can you hope to survive off-worldly forays and eventually achieve the title of Independent Adventurer.

To embark on an adventure, you must apply to one of four guilds, each stressing different Advanced Skills. All of them will send you to different worlds, where who-knows-what awaits you. You may find nothing or you may find treasures. Then again, there may be monstrous creatures just **dying** to kill, maim or capture your team. If between fleeing and fighting, you choose the latter, you'll get a complete strategy game of tactical combat.

Unlike other adventure games, this one doesn't just use a bunch of text to describe the action. Instead, screenfuls of Hi-Res color graphics vividly depict all the different unearthly battlegrounds, the warriors and their movements.

Aside from all the adventures already prepared by our designer, you can create your very own — ones that are as long and intricate as you like. You can even store all of them on disk for future play.

But before you can start on any of these Galactic Adventures, you've got to take a little down-to-earth trip first. And that's a quick jaunt to your local game or computer store today!

GALACTIC ADVENTURES™ ($59.95) is available on 48K mini floppy disk for the Apple® II Plus or Apple II with Applesoft ROM card.

GALACTIC GLADIATORS™ ($39.95) comes on 48K disk for both the Apple and the Atari® 400/800.

RapidFire
GAMES FROM SSI

If there are no convenient stores near you, VISA and MASTERCARD holders can order direct by calling **800-227-1617, x335 (toll free)**. In California, call 800-772-3545, x335.

To order by mail, send your check to: **Strategic Simulations Inc**, 465 Fairchild Drive, Suite 108, Mountain View, CA 94043. California residents, add 6½% sales tax.

WRITE FOR A FREE COLOR CATALOG OF ALL OUR GAMES.

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Psalm 9: 1-2

We can be contacted on The Source (TCL920)

Our phone number is (714) 776-4979

ADVERTISERS

Features

Departments

Letters

Dear Editor:

I am an avid gamer and have been for all but a few early years of my life. I advanced through the various levels of the gaming world much like any other gamer my age, and I faced the same dreaded problems what with the lack of opponents and the mounds of paperwork involved with role--playing. Therefore it was only natural that I realize the potential of the computer in this area. However all the computer related magazines began to drift more into the technical aspects of computing and a well written detailed review of gaming software became harder to find. Then came COMPUTER GAMING WORLD. Long had I wished for just such a magazine and I pounced on a subscription faster than a starving dog on a ham hock. I have read and re-read every issue thus far and I look forward to each new issue impatiently. However, of late I have began to fear that you too will be drifting to a more technical aspect rather than staying with your namesake. There have been several hints in various articles that you may indeed include articles of a technical nature and although it may be selfish, I hope you will refrain from doing so. There are multitudinous articles on that end of computing in other magazines and as a result I do not subscribe to them but I buy them one issue at a time depending upon interest. You are the official voice of the computer gamer and as such are filling a void inherent in us all. Please try to keep it that way lest we drown in a sea of technicalities.

Another bothersome area for me is the sniveling rivalry between computer enthusiasts. There is the APPLE group, the ATARI group, the TRS-80 group, the PET group, and lord knows what others. Many times I have felt that I am personally being chastised because I happen to own an APPLE II PLUS. I have nothing against ATARI, TRS-80, or PET owners. Why do they insist upon making snide remarks about the APPLE II PLUS? For example there are three such remarks of childish rivalry in the READER COMMENTS, page 43 of your VOL. 2 No. 5 issue, I quote, "There is a senseless preference shown for APPLES and ATARIS over the TRS-80 graphic junkies."; "Too many games are first developed for the APPLE then converted to the ATARI. ATARI users must then suffer with sub-par graphics and sound"; and "Go monthly and put in some ATARI articles. This past issue had more for the ATARI than other. But APPLE users have enough magazines of their own without giving them 3/4ths of this one also" un-quote.

Competing for top honors in the 'My computer is better than yours" contest does nothing to further the hobby of computer gaming, but a little understanding and co-operation could make quite a difference. I agree that when it comes to software and software reviews practically every computer system except for the APPLE suffers. The question is, who do you blame for this problem? The editors cannot justifiably be blamed as they rely heavily on outside contributions, so who on the outside can be blamed? Is it reasonable to lay the blame on the ATARI users because there is an insufficient amount of good software and/or software reviews for the TRS-80? Of course not. The only people who can be blamed are the users themselves. Someone has to write the software and the reviews, therefore if the PET users feel left out then they must accept the responsibility of doing something to correct the situation. The same would hold true for any computer system and the users of that system.

I would like to see the computer enthusiasts of today come together in friendship and co-operation to make the hobby as exciting and rewarding as it can be. While there is nothing wrong with loyalty to a particular computer system, detrimental comments about other computer systems can easily be avoided and should be, for they serve no useful purpose.

Stephen Stahl
Brazoria, TX

Dear Editor:

Thank you for promoting Robotwar activities. It is a game that requires continuing competition with other players to be fully appreciated.

I was very frustrated when I found out I'd missed your first tournament. I couldn't rest until I'd organized a local tournament, which we've been holding every 2 months ever since. Richard Fowell, creator of "Norden", is one of our club members. We are currently holding our tournaments at Rainbow Computing Inc. 9719 Reseda Blvd., Northridge, California.

Concluding there must be others in this great country that might be searching for Robotwar competittion. I also organized a "postal" Robotwar tournament. It is held the 1st of every month with a $4 entry fee to cover prizes and postage. Anyone interested may receive rules and mailing instructions from:

Frank Krogh
P.O. Box 5337
North Hollywood, CA 91616

We've had 3 postal tournaments as of December 1st, 1982. The winners were: "Stalker" by Pat Bachelder from Andrews, TEX; "Norden2" by Richard Fowell from Palos Verdes Estates, CAL; "Samoth" by Tom Schai from Roseville, MINN.

Good luck on your 2nd Annual Robotwar tournament.

Frank Krogh



INSIDE THE INDUSTRY

by Dana Lombardy,
Associate Publisher Game Merchandising

Last issue we listed almost 400 different new game software titles that were released in 1982. Looking at the data provided by the survey forms returned from the computer game publishers, we find some interesting facts.

Out of over 150 computer game software publishers, 81 listed their 1982 game releases, 6 were still active but had no new game releases, one was out of business, and one was no longer publishing game software. 69 were sent forms but never replied, despite two separate requests. Of the 81 responding, a total of 394 games were produced in 1982 (about 5 games per company). If we assume that at least 60 of the non-responding companies also had game releases last year, that would bring the total number of computer software games published in 1982 to 694!

A list of the 30 most prolific game software publishers follows. Even when including the games from none-reporting companies, these 30 software publishers (20% of the game manufacturers) account for nearly *half* of all game releases in 1982. In fact, just counting the top ten on the list shows that these firms (7% of the industry) account for *one-quarter* of all 1982 game software releases.

It must be noted that this list does *not* rank the companies by their size or the number of any one particular game sold. Some of the publishers with only a few game relases in 1982 had tremendously successful titles. This list is just one of several methods of measuring America's most rapidly-growing hobby: computer gaming.

The 30 Most Prolific Computer Game Publishers of 1982

Number of Releases	Publisher
22	Avalon Hill
20	Atari Program exchange
19	Thorn EMI Video
18	Datamost Inc.
15	Spectral Associates
14	Epyx/Automated Simulations
13	Adventure International
13	Broderbund Software Inc.
13	Futureview Inc.
13	Gebelli Software Inc.
13	Sirius Software Inc.
11	Hayden software
11	Strategic Simulations Inc.
11	United Microware Industries
9	Artworx Software Co. Inc.
9	Sierra On-Line Inc.
7	Datasoft Inc.
7	Synergistic Software
6	Avant-Garde Creations
6	Insoft Inc.
6	Sublogic Communications
6	Syncro Inc.
5	C&C Software
5	Computer Kinetics Corp.
5	Creative Software
5	Instant Software
5	Micro Lab
5	Spinnaker Software
5	Swiftly Software Inc.
5	Synapse Software

(The remaining 51 companies that reported publishing games in 1982 had four or fewer titles released.)

HOBBY AND INDUSTRY NEWS

Broderbund Software, Inc. has entered the **CARTRIDGE** game market with its first two Atari cartridge releases: CHOPLIFTER! and SERPENTINE. Both games are 16K.

Broderbund also announced its entry into the VIC-20 market with three cassette programs **MARTIAN RAIDER**, **SHARK TRAP**, and **MULTISOUND SYNTHESIZER**. All three programs are for the unexpanded VIC-20 and have suggested retail prices of $19.95.

THE GAMES NETWORK, a computer-games-by-cable company, has released the results of its two month charter membership drive (November 1, 1982 - January 1, 1983). According to Thom Keith, Executive Vice President of Network Affairs, "a total of 190 systems signed charter membership reservations, 166 systems signed charter agreements and an additional 11 systems became affiliates." During the first two weeks of January, 103 more systems signed on, bringing the total to 470 systems; representing a potential of over *five million subscribers*. The Games Network will go "on line" in September.

SubLOGIC has announced the release of their game, **"NIGHT MISSION" PINBALL** for the IBM PC. The game will run on any IBM PC with 64K and an IBM Color/Graphics Monitor Adapter. It will be available on disk and sell for $39.95.

McKelvie Programs, P.O. Box 53076, Phila., PA 19105, has released **GAMEMASTER**, a new program for the Timex-Sinclair and ZX-81 computers. GameMaster is a control and record keeping system for role-playing fantasy adventure games. It is compatible with TSR's *Dungeons and Dragons* role-playing game.

Michael C. Katz , former vice president of marketing and corporate communications at Coleco Industries, has been named president and chief executive officer of **EPYX**, Sunnyvale, CA.

Automated Simulations/EPYX has updated its computer football game, **TUESDAY MORNING QUARTERBACK**, to reflect the 1982 football season. The game is available on disk for the TRS-80 (48K) and the Apple II (48K). It sells for $29.95.

Automated Simulations/EPYX have also expanded their line of products for the **VIC-20**. The new additions are SWORD OF FARGOAL; RESCUE AT RIGEL; CRUSH, CRUMBLE AND CHOMP!; MONSTER MAZE; and RICOCHET. The first three are 16K cassettes with a suggested retail price of $29.95. Monster Maze is available on cartridge and retails for $39.95, while Ricochet is 8K on cassette for $19.95.

Sir-tech has announced the release of the third WIZARDRY scenario, **LEGACY OF LLYLGAMYN**. Also out for Wizardry is **WIZIPRINT**, a printout utility designed to print such information as a character's gold, experience, attributes, spells, and other items that Wizardry players need printed.

Two more new releases from Sir-tech are **PITS OF PERIL**, an arcade game for the Apple II (48K), and **POLICE ARTIST**, a childrens game which is basically a face recognition program for ages 7 to 14.

Penguin Software has announced that, as of March 1, 1983, they will be *lowering* the price of their games to $19.95. This will include both their old titles and their new ones (Thunderbombs and Crime Wave).

Softwaire Centre International now has 22 franchises opened or under construction nationally. Over 100 locations may be secured by June, according to their president, Glen Johnson.

Infocom, Inc. and **Osborne Computer Corp.** have announced an agreement that paves the way for Osborne to distribute the full line of Infocom's entertainment software.

Avalon Hill has added three new titles to their list of games for the IBM PC. **COMPUTER FOOTBALL STRATEGY**, **VC**, and **B-1 NUCLEAR BOMBER** all require 48K and sell for $21.00, $25.00, and $21.00 respectively.

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REAL WORLD GAMING

Dan Bunten



PROGRAMMING

For those who may have joined this series late, here is a brief recap of the previous installments.

A simulation game is a game that mimics a real world field of interest. It can allow players to experience some of the excitement of being anything from a stunt pilot to a millionaire businessman. In the last three issues we have covered the System Definition, Data Collection and Model Development phases in constructing a simulation game.

System Definition is the first step. It is similar to making an outline of your subject for a speech or an article. You define a "system boundary" that tells what things are "inside elements" and what things are "outside influences". At this point you also list the relationships between the elements of the system.

Next comes *Data Collection* where you observe and investigate the system you have chosen as the basis for a game. You try to answer the questions "How often do things happen?", "What quantity of things occur?" and "How do things affect other things?".

In *Model Development* you take all the pieces of information that you collected about your system and "boil them down" to probabilities, averages and ranges. All outcomes and relationships have to end up as some form of numeric data or you can't use them in your game.

Now that everyone is up to date we are ready for the next step — *Programming.* Although this phase does include actual computer programming, it involves much more than just writing code in your favorite language. You are now faced with the job of designing a GAME! Up until now we have talked about developing a simulation model. This model (if done well) should be a fair representation of what things are like in the real world. But, just as animation by itself does not make a good arcade game, a good simulation game needs more than simply a model!

The previous three sections of this column covered some of the technical aspects of the design of a simulation game. The information presented was mostly objective since systems simulation is based on scientific methods. However, the design of a game is more of an art than a science. There are very few rules and even those are occasionally broken to produce good games. So, the things I present here cannot be footnoted and referred to in a text book. They are "approaches" that others and myself have used to create games.

One approach uses a tool called a *story-board.* This is a script of the game as it will be experienced by the players. The story-board will help you examine the flow of the game before you spend a lot of time writing the program. Included in the story-board are all of the main features you will use in your game. This information will allow you and others to better imagine what it will be like to play your game. It is easier to revise your design to fix any problems at this point than later when you are chasing program bugs.

One main element the story-board helps you visualize is how the players will interact with the model. From the standpoint of the model design, the key question previously was "How does the system function?". Now you have to decide "How will the players affect the system?". The player interaction with the system can be thought of as their decisions. There is some relationship between the number of decisions you allow the players and the realism of the simulation. But it is not a simple relationship. Participants in real life systems typically (though not always) have numerous alternatives open to them. However, it is not necessary to give players all the options the system can support to make a realistic game. For instance in a business game I wrote, **Cartels & Cutthroats**, only seven decisions were needed by players to manage their hypothetical companies. Obviously, in the real world there are many more factors for a corporate president to analyze. However, for playability it was more important that the decisions made be direct and simple. Even with this small number of inputs it was possible to create a very realistic "feel" through a mixture of randomness and factor influence.

Thus, to complete your game design you need to know how many and what types of decisions players will have to make. You must also plan how they will input the information. Although a keyboard provides the greatest flexibility, serious consideration should be given to *game input devices.* Paddles and joysticks are a lot less intimidating than a keyboard to almost everyone. In addition, from a programming point of view it is often easier to flag bad inputs from a joystick than to catch a bad key press or misspelled word.

Input is only half of the player interaction of your game. The other part is the output from the system to player. Although it is possible to produce a simulation game where all of the output is in the form of text, my own experience indicates this may not be desirable. In 1979 I wrote a football game, **Computer Quarterback**, that was based on exhaustive research on the outcomes of combinations of offensive and defensive plays. For each running play against each defense I derived five values that were used to generate outcomes. For each passing play there were seven variables used to determine the outcome against each defense. Overall, this model

Continued on p.47

Taking a peek

In addition to games mentioned elsewhere in this issue, the following products have been received by CGW. Some of these products will receive more detailed attention in future issues. Readers wishing to review any of these products should contact CGW.

Adventure International
Box 3435
Longwood, FL 32750

MACES & MAGIC #2—THE STONE OF SISYPHUS: A graphics/text adventure game by Chameleon Software. Several of its unusual features include a well executed coded hint sheet and very large numbers of potential weapons and types of armor. Atari (48K), Apple II, TRS-80.

Avalon Hill Game Co.
4517 Harford Rd.
Baltimore, MD 21214

ALIEN: A computer game based on the theme of the movie of the same name. The alien, which will metamorphose to more deadly forms as time goes on must be detected then captured or destroyed. Apple II. $28.00

GFS SORCERESS: The first in a continuing series of games based on the saga of Joe Justin and Selena Sakarov. A two-word text adventure game. In addition to the disk and rule book you get "Restless Universe" a fictional story that introduces the adventure and the "Galactic Federation Naval Officer's Manual."

CBS Software
Hagerstown, MD 21740

K-RAZY KRITTERS: A Space Invaders type game for the Atari 400/800. 10 levels of play. Cartridge.

Funsoft
28611 Canwood St.
Agoura, CA 91301

TIME RUNNER: Similar to a maze-chase game, TR involves the hand-eye skills of running around a maze and the strategy skills of surrounding parts of the maze to gain points. Wrap your trail around a box and get so many points. Atari 400/800 disk or tape (16K). $29.95

Hexcraft Inc.
P.O. Box 39
Cambridge, MA 02238

GENESIS - THE ADVENTURE CREATOR: Here is a real sleeper. Game generating programs are becoming more and more popular (e.g. The Arcade Machine, Pinball Construction Kit). Genesis is an adventure game generator. In "The Creator" portion of the program you create your map, objects, commands, and text. You can create your own custom adventures. We like it. Apple II (Atari, IBM PC, Comm64 coming). $49.00

Howard W. Sams & Co.
4300 W. 62nd St.
Indianapolis, IN 46268

CAVES OF OLYMPUS: A hi-res adventure game using two-word command format. You must explore the Caves in search of a spaceship with which to escape the Laren. Animation and sound effects are nice additions to the standard adventure game format used in COO. Apple II.

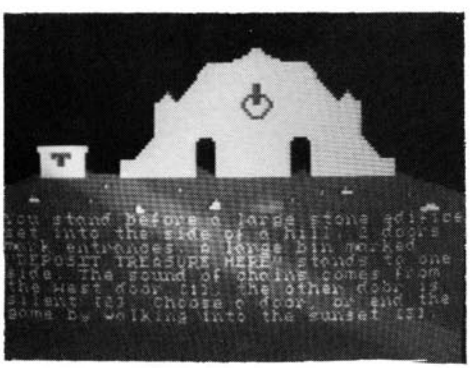
MUSIC GAMES: Using the reinforcement technique of learning, Music Games teaching the elements of music. Catagories of games/lessons are: Ear Training, Listening, Note Recognition, and Rhythm. The hi-res program even includes Bach's "Solfeggietto" at a tempo of your choosing. Apple II.

Imagic
P.O. Box 2055
Saratoga, CA 95070

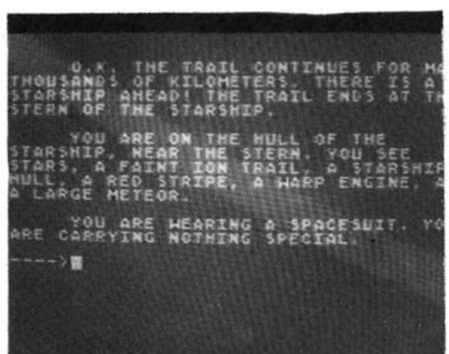
DEMON ATTACK: Imagic has translated their popular Demon Attack Atari VCS game to the Atari 400/800. The cartridge based arcade game is well done graphically, however the game design itself is nothing new (basic Phoenix type game). Game variations allow two player games, advanced games, and tracer shots that can be controlled after firing. Atari 400/800

William Kaufmann, Inc.
95 First St.
Los Altos, CA 94022

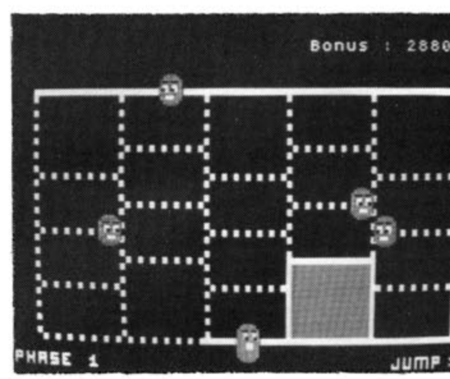
WHAT'S SO FUNNY ABOUT COMPUTERS: A book of cartoons by S. Harris. The Cartoons cover such subjects as artificial intelligence, invasion of privacy, and home computer applications. $6.95 in paperback.



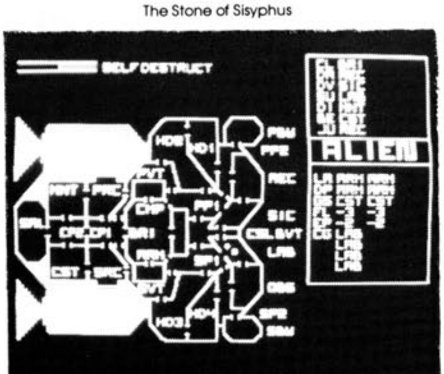
The Stone of Sisyphus



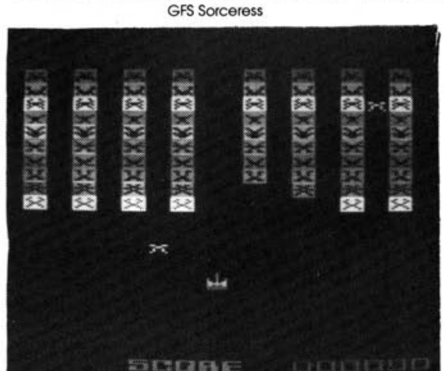
GFS Sorceress



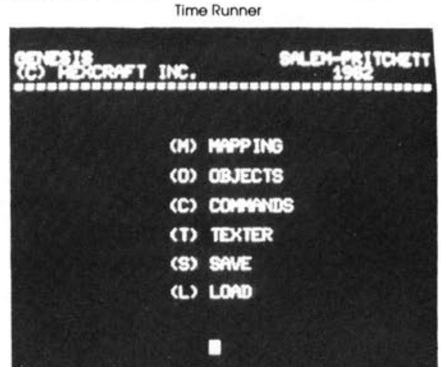
Time Runner



Alien



K-razy Kritters



Genesis — The Adventure Creator

Metacomet Software
P.O.Box 31337
Hartford, CT 06103

THE PROGRAMMABLE CUBE: A simulator and game based on the popular Rubik's Cube ®. The simulator shows all six sides and simulates motion for each move. A complete solver guides the user step by step through the solution of any scrambled cube. The program uses a simple-to-learn special programming language. Apple II.

Mirror Images Software
1223 Peoples Ave.
Troy, NY 12180

Color Graphics Adapter necessary on all Mirror Images IBM games.

HEXTACY: A symbolic territorial war game with some similarities to the Oriental game GO. However, unlike GO, "stones" need not be exclusively surrounded by one's opponent's stones. A stone surrounded by more than one player's stones is captured by the player with the most stones surrounding said stone. The significant thing about Hextacy is that it can be played by up to three players plus the computer as the four player. Apple and IBM PC. $34.95

HIDE AND SINK: You play against the computer in this sea war game. There are three versions of play: Standard H&S, Super H&S, and Super-Salvo H&S. The standard version is basically a souped-up computerized version of the pencil and paper game "Battleship". Your ships are hidden on a 10x10 grid and the enemy takes shots trying to hit your hidden ships while in your turn you try to hit his hidden ships. "Super" and "Super-Salvo" add missiles and increased firepower. A nighttime option makes sighting more challenging. Apple and IBM PC. $34.95

SPYDER: A arcade game of invading the cave of the Arachnid King. Play involves shooting decending Spyders, stooping crawling Spyders, and destroying eggs. The number of points awarded for each Spyder or egg killed depends on such factors as how you killed it and where it was at the time. IBM PC.

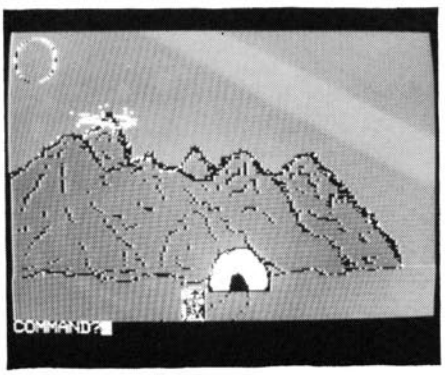
TACHYON: An arcade game with elements of the old "Star Trek" computer games. The galaxy is divided up into 25 quadrants. Each quadrant contains one of the following: refueling station, space storm, blackhole, enemy fighters. Action within a quadrant is executed in arcade like action as you use your lasers and torpedoes to survive. IBM PC.

Muse Software
347 N. Charles St.
Baltimore, MD 21201

THE CAVERNS OF FREITAG: This is going to be a popular game. According to some of the people at Muse TCOF is better than their popular Castle Wolfenstein. We agree. TCOF is an underground fantasy adventure in which you work your way through a large maze to seek out and destroy the evil dragon Freitag. You can select from three different display modes. The three modes allow you to get a variety of overhead views: from close/detailed to far/plain. Other features include spells, increasing rank, selectable speed and level of play. Apple II.

Nexa Corp.
P.O. Box 26468
San Franciso, CA 94126-6468

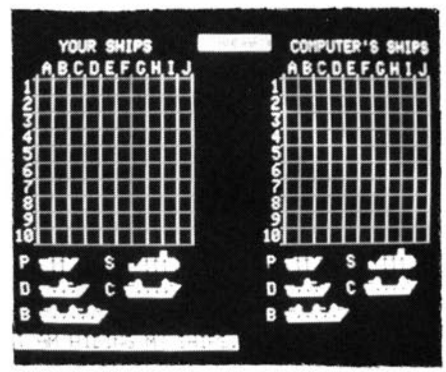
CAPTAIN COSMO: An arcade game that has similarities to Defender but has the appearance of a children's game. Both the fiction and graphics of the game seem to be geared to youngsters. You as the good Captain must turn the grumpy Munchies into happy Smilies with your Somanizer ray. Spacey Stacey and Devious Dan attempt to thwart you. However the appearance of the game notwithstanding, at advanced levels CC is just as challenging as any arcade style game. Apple II. $35.00



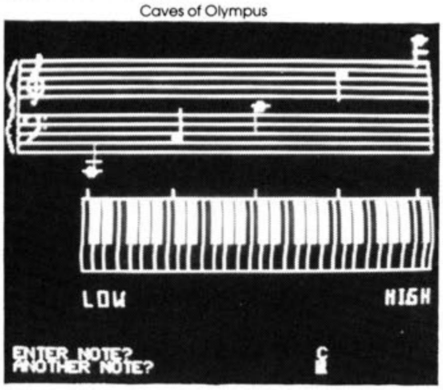
Caves of Olympus


"What it comes down to is this thing is capable of telling us a lot more than we really want to know."

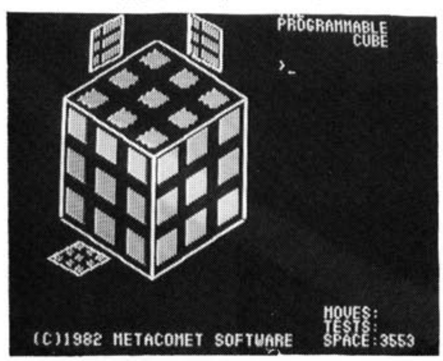
What's So Funny About Computers



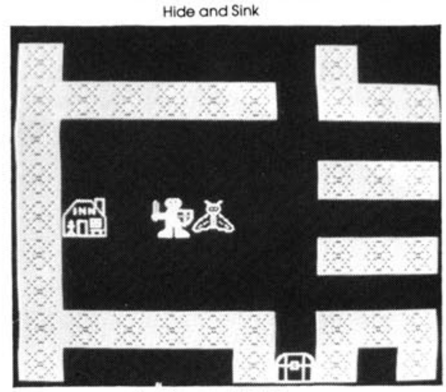
Hide and Sink

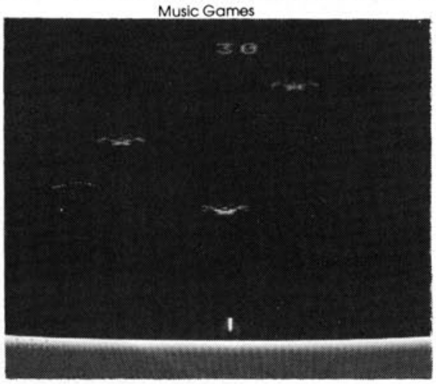


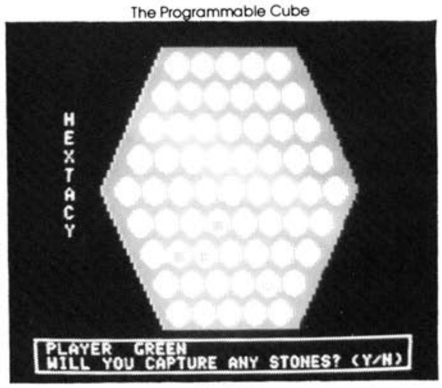
Music Games



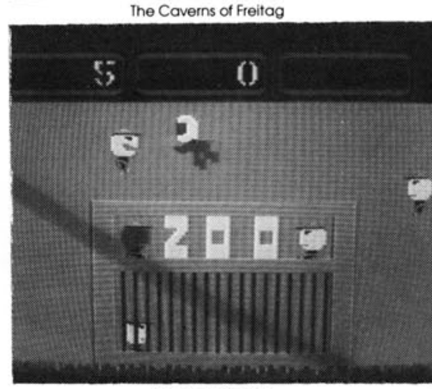
The Programmable Cube


The Caverns of Freitag


De-mon Attack



Hextacy


Captain Cosmo

Penguin Software
830 4th Ave.
Geneva, IL 60134

PIE-MAN: A "different" kind of arcade game. You are working in an automated bakery (we don't know why your job hasn't been automated). You must take the pies as they come out of the conveyor, put whipped cream and a cherry on them then take the finished pie to the pie bin. Sacks of flour, greasy floors, and tipsy wedding cake bakers make your job more difficult. Apple II. $19.95. Note: It is nice when companies add little extras to their products or packaging. In the case of Penguin Software, they take their mascot(s), penguin(s), and situate him/them in the artwork in a manner related to the game. In Pie-Man the penguins wear baker's hats.

SPY'S DEMISE: A arcade game in which you, the spy, attempt to reach the top floor of the Russian diplomacy mission and capture an encoded message. Play involves crossing each floor while avoiding the guards. Each floor contains parts of the encoded message. When all parts are gathered you can crack the code and send the answer to Penguin. If you are the first person from a state of the U.S.A. or Canadian province, or other country to solve the puzzle you can win a Spy's Demise T-Shirt from Penguin. Apple II. $19.95. Note: The penguins are wearing "spy" coats.

TRANSYLVANIA: A hi-res two-word adventure game in which you rescue your basic damsel-in-distress. Graphics are well done. Apple II. $19.95. Note: the penguin runs away from the haunted mansion, eyes covered in fear.

Rena-Soft
1070 Shary Circle
Concord, CA 94518

ARTESIANS: A four-level arcade game in which you attempt to steal water-filled jugs from the fourth floor ("it's the water" you know). The first level is a Pac-Man like maze. Level two involves crossing conveyer belts and walkways (Frogger). Level three involves negotiating moving gears and barrels (Donkey Kong). The fourth level is where you fill your jars. Apple II. $34.95

Strategic Simulations
883 Stierlin Rd. Bld. A-200
Mountain View, CA 94043-1983

GALACTIC ADVENTURES: A science fiction adventure game with spaceship and man-to-man combat. Based on the Galactic Gladiators game, GA expands the scope of GG while providing the ability to design adventure campaigns for others to play. Apple II. $39.95

Sierra On-Line
36575 Mudge Ranch Rd.
Coarsegold, CA 93614

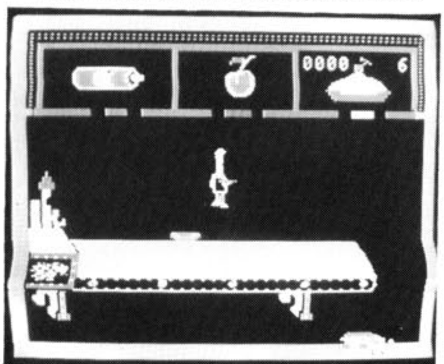
CROSSFIRE: The IBM PC version of the popular arcade/strategy game. You must destroy aliens before they destroy you as you make your way around the city streets. $29.95

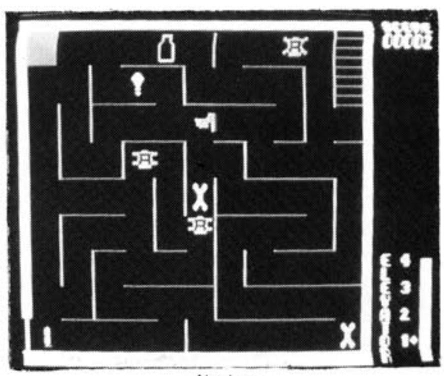
ULYSSES: The IBM PC version of Hi-Res Adventure #4. You are Ulysses in this two-word adventure game. You must retrieve the Golden Fleece. Two disks. Documentation is beautiful. $39.95

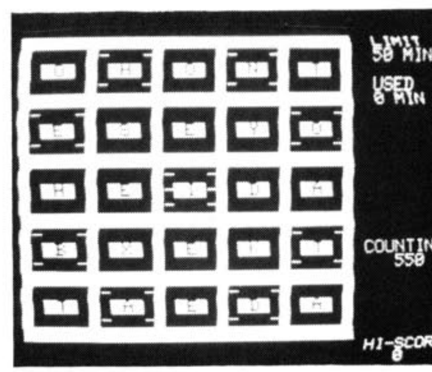
Soft Images
200 Route 17
Mahwah, NJ 07430

BLACK JACK STRATEGY: A totally new Black Jack program by Norman Wazaney Jr. This one is much more user oriented than BLACKJACK MASTER (TRS-80, see review in 2.2). The program includes the game, a black jack tutor, and a simulator in which you can try out your strategies. The system provides step-by-step instructions to help raise the player's level of skill—without relying on card counting. Apple II. $69.95

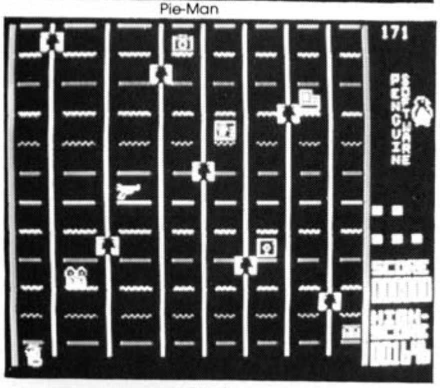
PANDEMONIUM: A word game for the Apple and TRS-80. The object of the game is to place twenty-five randomly generated let-


Pie-Man

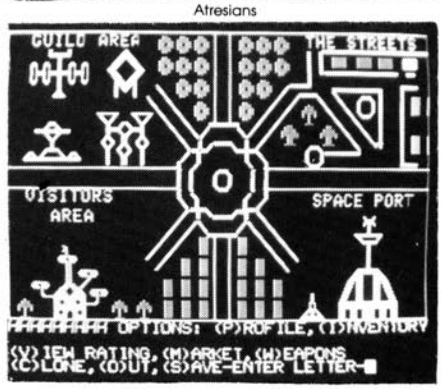

Atresians



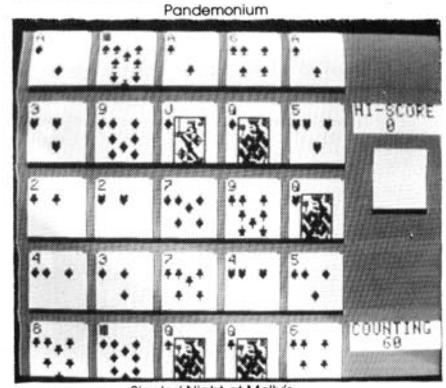
Pandemonium



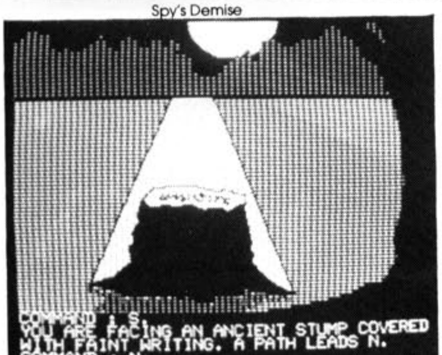
Spy's Demise



Galactic Adventures



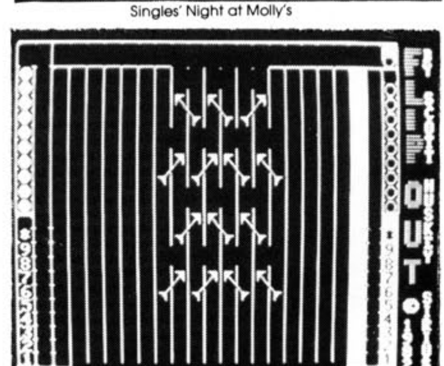
Singles' Night at Molly's



Transylvania



Black Jack Strategy



Flip Out

ters onto a five-by-five playing board matrix in order to construct three,four, and five letter words. There are several game variations available. Any number from one to a full party can play. $39.95

SINGLES' NIGHT AT MOLLY'S: Two solitaire card games make up SNAM. Royal Flush uses a 5x5 matrix and 25 randomly drawn cards. The object is to place the cards onto the matrix in such a way as to achieve the highest possible score. Sly Fox is a computer version of the 2 deck solitaire game which requires more skill than luck to win. Apple II. $29.95

Sirius Software
10364 Rockingham Dr.
Sacramento, CA 95827

FLIP OUT: A nice little strategy game in which a hi-res screen of gates open and close to trap or release marbles which must be made to fall to the bottom of the playing field. A mental challenge. There are nine different playing "fields". Apple II. Atari.

WAVY NAVY: A Space Invaders type game in which your ship rides giant waves while trying to shoot down enemy aircraft. The wavy effect adds the challenge of varying the distance to the enemy aircraft. Underwater mines must also be avoided. Apple II. Atari.

SubLOGIC Corp.
713 Edgebrook Dr.
Champaign, IL 61820

NIGHT MISSION PINBALL: The Atari version of NMPB is now out. An 18pg. Adjustment Manual comes with the game to customize it to your liking. See micro-review in 3.1. $34.95

TSR Hobbies, Inc.
P.O. Box 756
Lake Geneva, WI 53147

DAWN PATROL: DP has promise as a more detail flight/combat simulator in the tradition of SubLOGIC'S Flight Simulator and British Air Ace. However it takes time to learn the system and the upper wing is positioned realistically but annoyingly right across your forward line of sight. Apple II.

DUNGEON: A computerized version of their popular board game of the same name. As a solo adventure forget it. As a multi-player game (up to eight can play) in which each player is vying for the same treasures, Dungeon is worthwhile. Good graphics and packaging. Apple II.

THESEUS AND THE MINOTAUR: A 3-D full color maze game in which you must rescue the princess Ariadne. Not nearly as detailed as Wizardry but somewhat better for graphics. The creatures appear in the maze itself, rather than in a seperate window. Apple II.

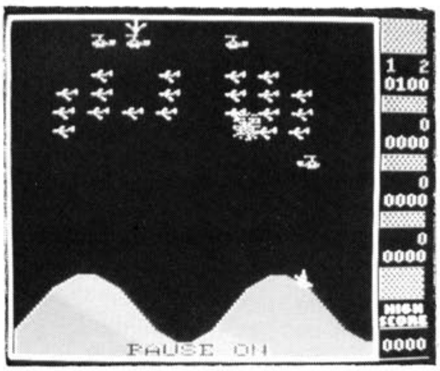
Xerox Education Publications
Computer Software Div.
Middletown, CT 06457

OLD IRONSIDES: For some time now we have wanted to see a good "Fighting Sail" era naval game incorporating many of the elements of "Wooden Ships and Iron Men", Avalon Hill's award winning board game on fighting sail. Although Old Ironsides is not as detailed as the AH board game, it does an excellent job of recreating the "feel" of naval combat under sail power. The two ships each have six guns per side and six rounds of power. Guns can be eliminated. Powder is used up. Powder is replaced at a rate slower than you fire rate therefore you must keep an eye on your ammo. You can sail off in the fog and fire from it's safety. All-in-all a very good game of which we hope to share more in our next issue. Apple II. $39.95

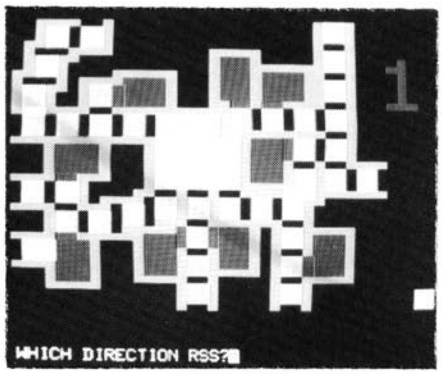
STICKYBEAR BOP: An animated shooting gallery of Stickybears, ducks, planets, balloons, etc. Each round requires more skill. Free posters and stickers. For ages 3 and up. Apple II. $39.95

Mind Games, Inc.
420 So. Beverly Dr., Suite 207
Beverly Hills, CA 90212

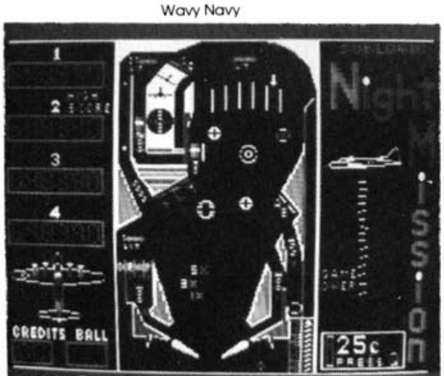
THE DESECRATION: A hi-res/text adventure game with a difference. Embedded in the game are three arcade game sequences. At certain points in the adventure you will be faced with an arcade game challenge. If you fail to survive the arcade sequence, you die and must start over. TD is the first in a planned series of games. Apple II. $37.95



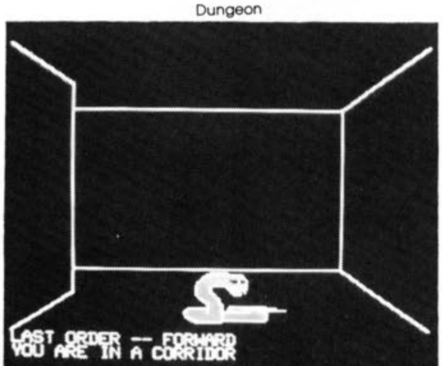
Wavy Navy



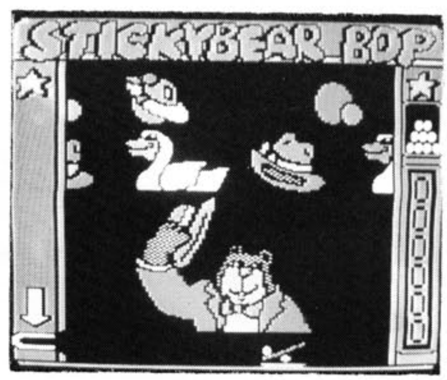
Dungeon



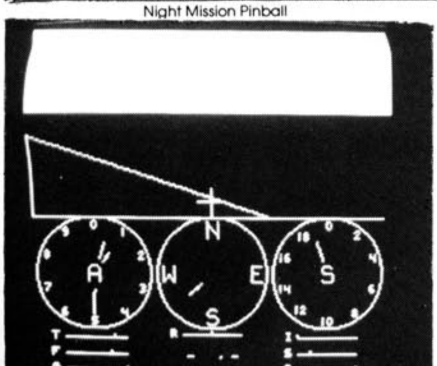
Night Mission Pinball



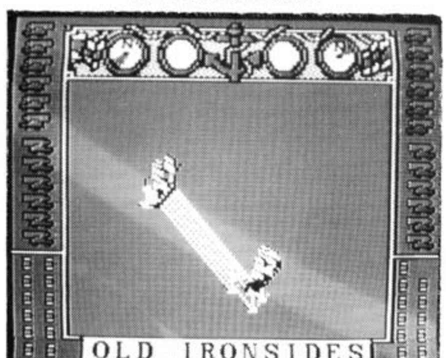
Theseus and the Minotaur



Stickybear Bop



Dawn Patrol



Old Ironsides



The Desecration

SOME READER COMMENTS

Here are some answers you readers sent to us in response to recent questions on the READER INPUT DEVICES.

WHAT WAS THE PRIME REASON YOU PURCHASED A PERSONAL COMPUTER?

The breakdown on this question from RID #5 was:

Entertainment	74%
Business	17%
Education	9%
Programming	5%
Word Processing	3%

Several readers indicated two reasons why they bought a computer hence the responses totaled more than 100% by category. Those that picked two categories picked entertainment along with one of the other four.

WHAT WAS THE SINGLE MOST IMPORTANT GAME RELEASE AND/OR OCCURENCE IN THE COMPUTER GAMING HOBBY AND INDUSTRY IN 1982?

This question, also from RID #5, brought a wide range of responses. Most of the respondents selected a game release as the most important game/event of the year. Topping the list of MOST IMPORTANT GAME RELEASES OF 1982 were: Guadalcanal Campaign (25 votes); Choplifter! (12 votes); Wizardry (11 votes); Eastern Front (7 votes). Others that received votes as the "most important game release in 1982" were: Legionnaire; Galactic Gladiators; Southern Command; Pursuit of the Graf Spee; Napoleon's Campaigns 1813-1815; David's Midnight Magic, Time Zone, Ultima II, The Mark of the Sun, Cytron Masters, Aztec. Among those selecting a "Most important occurence in computer gaming in 1982" there was a wide range of opinions. Here are *some* of those opinions:

THE MOST IMPORTANT OCCURENCE IN COMPUTER GAMING IN 1982 WAS:

— The capture of the gaming market once dominated by Apple and TRS-80 by the Atari.

— SSI's acknowledgement of Atari gamers and their expansion of their Atari line.

— Announcement of the improved Apple II coming out early in 1983.

— That the news media awoke to the booming growth of the microcomputer and told the general public.

— Introduction of strategy/action games which combine strategy and arcade action.

DO YOU PREFER BUYING GAME PROGRAMS FROM DISCOUNT MAIL ORDER HOUSES OR FROM LOCAL RETAILERS? WHY?

This question which was asked in RID #4 gained a lot of response. Everyone had an opinion on this one. Of those responding the breakdown was:

Local Retailer	58%
Mail Order House	38%
Both	4%

The most common reason given for buying from the local retailer was the *opportunity to preview* the game. the most common reason given for buying from a mail order house was *lower prices*. The question of customer support was a toss-up. Some felt they got better support form the local dealer since he could often repalce a product on the spot. Others thought that they got better support from the mail order house which knew more about the games and had a better selection from which to choose. Some said that they would like to buy from local retailers but because of lcoation (Alaska, Spain, etc.) were forced to shop through the mail.

COMPUTER GAMES IN 1983: A Report

Russell Sipe



The Winter Consumer Electronics Show held recently in Las Vegas gave us a glimpse of what will be the trends in computers in 1983 and beyond. CES, which showcases consumer electronic products, covers much more than computers, but this particular edition of CES illuminated the fact that personal and home computers are the wave of the future in the electronics field.

THE CHANGING MARKETPLACE

Perhaps the most significant fact that CES revealed was that the line of demarcation between personal computers and home video systems has disappeared.

Until very recently it had been safe to say that there were two types of machines which play computer games in the home. One of these being the home video machine (costing less than $300 and cartridge-based), represented by machines like the Atari VCS, Mattel Intellivision, Magnavox Odyssey, and Coleco-Vision. The other type machine one could play computer games on was the personal computer such as the Apple, Atari 400/800, IBM-PC, TRS-80 etc..

However with the introduction of the Vic-20 in 1982, the cost of computers coming down, and the functional power of the game machines increasing, we can no longer look at the field as two distinct entities. Manufacturers are now looking at the home electronic market more as a continuum which they can reach with three types of machines, the home video machine, the HOME computer, and the PERSONAL computer.

The home computer is seen as a machine which IS a microcomputer much like the personal computer but is marketed for the family and designed to meet applications in the home rather than in business. For example, the Atari 400/800 is now seen as a home computer and the Apple computer is seen as a personal computer. The former costs less, emphasizes entertainment and other home related functions such as educational programs. Choosing this type of target and combining it with mass merchandising techniques has resulted in Atari by passing Apple. Game manufacturers, realizing this, have begun to change emphasis from the Apple to the Atari. While the Apple has been used by many as an entertainment device, its' main function is perceived to be as a business or professional machine. The IBM pc also falls into the personal computer catagory.

According to David Blumstein, Executive V.P. of Softsel, a major software distribution company, the Apple is now on the decline as an entertainment machine in terms of market share. The manufacturers are looking instead to the mass market of the home computers such as the Atari 400/800, Commodore Vic-20, and TI 99/4A. Blumstein goes on to say that "the (game software) industry is following the marketplace and the marketplace is in the small home computers".

"This is not to say that Apple is being abandoned", says Blumstein, "There will always be good Apple game products. In fact the Apple products should be of better quality in the future (due to the competition from the home computers)". The Apple games will become more and more strategic and cerebral oriented while the home computers will maintain the arcade orientation presently so popular. Arcade games will not disappear on the Apple but strategy and adventure games will dominate personal computer game software in the future speculates Blumstein.

Jon Loveless, of Synapse Software which has several Atari 400/800 programs on the market, also sees "thinking" games as the wave of the future. People are becoming dissatisfied with the hand-eye co-ordination game and are beginning to look for something more mental according to Loveless.

Something of the same viewpoint can be seen in the thinking of Mattel Electronics. At the computers/games conference held at CES Richard Hoag of Mattel pointed out that Mattel will be putting emphasis on "user modifiable games". User modification is a feature found on many strategic games (e.g. the ability to select the forces and or strengths of each side in a military simulation).

Another aspect of the changing computer game marketplace is the status of the individual game designer. One speculates about possible raiding of personal computer game companies by the big mass merchandising cartridge game manufacturers to find top game designing talent. At this point it has not been a problem, but what about the future. Doug Carlston of Broderbund Software feels that personal computer software houses such as Broderbund will always be able to be attractive to game des-

igners not only because they pay well but also because designers working in or with personal computer software houses are an active part of the creative process, not just a cog in a corporate wheel. Carlston sees this creative relationship between the companies and the designers as a key reason that companies like Broderbund will be able to compete effectively with the mass market giants.

No one has to be told that the market for computers and computer games grew enormously in 1982. In terms of computer games, entertainment software makes up 45% of the volume for home computer software and, according to Future Computing of Richardson Texas (a consulting group on computer marketing), that market share should grow to 58% by 1987. The only other area that is expected to grow is educational software which now makes up 12% of the software but should command a 21% share by 1987 (see chart).
With the growth of the personal/home computer marketplace comes the growth in Number of products available. In recent days both Atari (Atari 1200) and Apple (IIe) have released new computers. While these two machines are more business oriented and fall into the personal: computer catagory, never-the-less they will bring more customers into the computer game marketplace.

Mattel has announced the release of the Aquarius Home Computer System. Retail price for the basic unit will be under $200. Some of the more popular Mattel Intellivision games will be available for the Aquarius Home Computer.

Mattel also plans to release a computer keyboard upgrade to their Intellivision game system and call the new system the Entertainment Computer System. It will, according to Gary Moskovitz, Mattel Marketing director, be "right between video games that compute and computers that play video games".

The Sinclair and TI 99/2 computers are two low-cost entries that bear watching in the months ahead.

If CES revealed nothing else, it revealed that computerized entertainment will be a major force in the 1980's. There is in that marketplace a need for the game retailer who can offer computer game products and give the consumer expert advice in choosing where to spend his entertainment dollars.

HIA REPORT

Another show of importance to computer gamers took place in January. The Hobby Industry Association of America (HIA) held it's annual convention and trade show in Anaheim during the last week of the month. One of the divisions of HIA is Adventure Gaming. The member companies of this division are major manufacturers of strategy board games as well as role-playing games.These companies produce most of the "Dungeons and Dragons" type games as well as nearly all the strategic and/or wargames that can be found in any game store. Avalon Hill has been one of the few companies in HIA that have also been producing computer games. Although not a member of HIA, SSI is another computer game manufacturer whose games are similar in subject matter to the type games produced by these board game and role playing game companies.

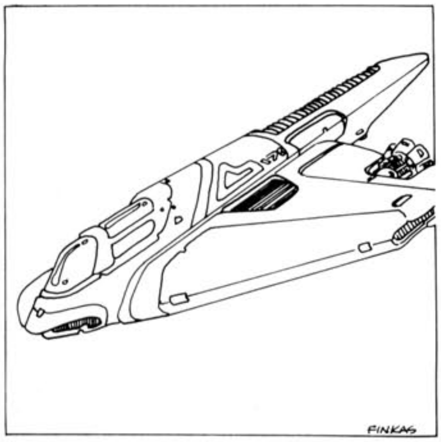
While it is true that computer games have not been a major product of these companies, this year's HIA is significant in that many HIA/Adventure game members made it known that they are working on computer games. In 1983-1984 we will see many of these companies enter the computer game field with releases of personal computer games. EON PRODUCTS will be developing computer games for The Children's Computer Workshop. ColecoVision has licensed to do FLYING BUFFALO's role-playing ga, has released there first three games, *Dungeon!, Dawn Patrol,* and *Theseus And The Minotaur* (all for the Apple). DISCOVERY GAMES has a WWI air game for the TRS-80 entitled *Over There.* In March they will release a game called *Flying Tigers* which places you inside the cockpit of a WWII fighter (Apple II). STEVE JACKSON GAMES is talking with companies about computer versions of some of their games. Nothing firm yet. TASK FORCE GAMES showed 16K computer versions of their board games *Starfire!, Survival, The War of The Worlds,* and *Asteriod Zero-Four* (all for the Atari 400/800). GAME DESIGNER'S WORKSHOP is working on an Apple version of their *Asteriod* game (not to be confused with the arcade game Asteriods). YAQUINTO GAMES is releasing computer versions of several of their board games: *Timewar, Starfall, C.V., Panzer, Shooting Stars, Swashbuckler* (not to be confused with DataMost's Swashbuckler - a totally different game), *Attack of the Mutants,* and *Market Madness.* These games will run on Apple, Atari, TRS-80, IBM-PC, Vic-20, and Commodore 64 (can you believe it?!). AVALON HILL GAME COMPANY demonstrated several new games at the show including *The Alien, Gypsy, Flying Ace, Close Assault, Space Station Zulu, Facts in Five, and Fredricksburg.* CYBER ENTERPRISES displayed the new disk version of their TRS-80 chess program, *Cyberchess.*

The were three computer industry companies showing at HIA. In addition to COMPUTER GAMING WORLD, DATAMOST and RESTON SOFTWARE displayed their wares.

All-in-all it looks like there will be many more companies producing strategy computer games in 1983. This is a plus for the hobby. However, a word of caution is in order. Successful board games sometimes make poor computer games. It will behoove designers and manufacturers to analysze what goes into a successful computer game and make sure that their games, whether translations of board games or original designs, contain sound computer game design elements (e.g. good human engineering and documentation, etcetera). ■

COSMIC BALANCE: Tactics and Ship Design

Floyd Mathews



Cosmic Balance is possibly the best tactical space wargame available today. It has many positive features, such as the ability to design an infinite number of new ships, simultaneous movement and fire, a variety of weapons and equipment, intricate tactical possibilities, a very competitive subroutine for solitaire play, the "feel" of a good *Startrek*® episode, good graphics, optional combination with a new strategic game, and the speed and sophistication of machine language programming.

Good tactics and ship design require a basic understanding of the available weapons and equipment. With this in mind, the manual proves to be very informative, and the summary of systems on the last page is very helpful.

The tactical options in this game are numerous and complex. The following ideas are only an introductory guide. On the first turn you should check the mass of the opponent's ships. If his mass is greater than yours, then you should immediately try to disengage unless you have reason to believe that he has unarmed transports/or lower technology ships. Do not hesitate. If you decide to run, then *RUN*. If his speed is equal to or greater than yours, he has ten turns to overtake you before you can warp out. If he inflicts sufficient damage to your warp drive, your ship will explode if you try to warp out. You cannot risk even one reconnaissance pass because your first approach may be your last.

On the first turn, if you discover that your mass is greater than the enemy fleet's, then you should press him closely and try to destroy as many ships as possible in the first ten turns before he warps out.

If both fleets have about equal mass, then you should approach cautiously in an oblique or spiral course. If the enemy fleet begins inflicting more damage than you, he may have higher technology ships or better designed ships, and you should try to disengage immediately.

If you have any ships that have mainly long range weapons, such as *Ship A* (see listing); they should obviously stand away from the enemy ships. However, if the range exceeds 100, the computer's ships may automatically try to warp out in solitaire play after ten turns.

If you have more than one ship with short range weapons, you should keep them in a close formation and try to gang up on a single enemy ship, preferably his smallest ship first. Once you select your target, it is probably best to stay close and continue firing at it, as your fire will become increasingly destructive as you wear down his shields. Additionally, you will probably get more victory points for destroying one ship than for partially damaging two and, in the new strategic game, there wil be automatic free repairs for all damaged ships which escape.

Carefully observe which shields the enemy is firing through, what types of weapons he fires, and whether his fire is more effective than yours at different ranges. If it appears that he has few weapons in certain areas, try to maneuver one or more ships in close on that arc. If your weapons are more effective at a certain range than his, then try to keep that minimum distance between your ships. If he is using weapons for which you have special defenses, such as belts, then be sure to keep your belts fully charged. All of this is easier said than done, as you don't know where he will move next, but you should try. You may be able to detect patterns in how he maneuvers which will enable you to predict his next move.

In general, you should not move in straight lines too often; making it easier for the opponent to predict your next move. It is better to approach your target in a curving or spiral maneuver in order to keep him guessing, and also to hopefully trigger premature fire by him at long range if he has set his weapons to fire at the "last instant" command.

You should try to plot courses which will bring you in close to the target and then back out to a safer distance all in the same turn. As you make your pass by the target, your short range weapons should be set on the "time point" command to blast him at the estimated shortest range, but do try to leave some margin for error in the angle of your approach, or your weapons may not be able to bear on the target. If you are successful in timing your fire at the shortest feasible range, and if his weapons shoot at longer range, you should be able to inflict substantially greater damage than you receive. Try to avoid ending the turn in a position close to his ship, as this might give him a free "cheap shot" at the start of the next turn.

You should use the "time point" command to set your weapons to fire in several bursts on consecutive time points in order to inflict maximum damage, not all on the same time point. Each burst should be calculated to inflict about 40 damage factors in order to overwhelm any shield. After the shield is penetrated, if any damage factor strikes a layer of armor, all additional damage in that time point will be deflected. Therefore two bursts of 40 damage factors each in two consecutive time points will probably be more destructive than one burst of 80 in one time point. Armor will deflect much of the damage from each burst, therefore it is better to have several smaller bursts than

one large burst. As you begin to wear down his shields, you should try to reduce the size of each burst to 30 or less on a greater number of time points, as less damage will be needed to overwhelm his shields.

The plasma torpedo is the only weapon which can destroy armor sectors, but it must be used at point blank range to be effective. If it is fired at long range, it will not inflict as many damage factors, or the target may simply turn away from it and outrun it. Ideally, you should try to time this weapon to fire at a range of five or less as the target is moving toward you, so that he will have less time to take evasive action. You should also try to launch one light seeker on the same turn as you fire the plasma torpedo so that the seeker will hopefully reduce his belt strength *before* the plasma impacts the target.

If you are giving more damage than you are receiving, then press him closely so that he will not have time to recharge his shields or escape. However, if he succeeds in breaching one of your shields, you should try to withdraw temporarily to repair the shield before making another close pass. Try to keep the breached shield facing away from him until it is recharged.

If an enemy ship takes a straight line course away from you,this probably means either you have critically injured him and he is trying to escape, or you have destroyed enough of his subwarp drives so that he can no longer maneuver at subwarp speed and is coasting away from you. Either way, you should immediately pursue and try to finish him off. If you observe that he has no weapons covering one of his four rearward facing arcs, then try to overtake him with a converging course approaching through that arc. It may be unchivalrous, but it is better to pound a cripple through a defenseless arc than to trade punches through his strong arcs.

Your priorities for allocating your ship's power to its various systems will change as the tactical situation changes, but the following generalities should be useful in most situations. Electronic counter measures are a good investment of power, and you should always use them. Electronic counter-counter measures are also very effective. Speed and course changes should be your second priority for allocation of energy except at point blank ranges. At short ranges you should give priority to charging and firing weapons over recharging shields, but reverse this order of priority at long ranges. Draining shield batteries in order to obtain additional power to boost other equipment is not a good idea, unless this is your only way to charge all of your weapons at short range.

The program's subroutine for solitaire play against the computer is very effective, and you can improve your own play by understanding how the computer *"thinks"*. On each turn the computer first identifies which arc of each of its ships has the strongest combined value for *both* shields and weapons, and then plots a course which will hopefully turn that arc toward the closest player ship. Hence, if arc one or eight is the strongest, the computer's ship will fly directly toward the target. If arc four or five is the strongest, the computer's ship will fly directly away from the target. If arc two is the strongest, the computer's ship will spiral toward the target in a clockwise turn. If arc seven is the strongest, the computer's ship will spiral toward the target in a counterclockwise turn. If arc three or arc six is the strongest, the computer's ship will spiral away from the target in a clockwise or counterclockwise turn. If all arcs have equal strength, the computer arbitrarily selects arc eight as the strongest, and tries to turn that arc toward the target. If the range between the computer's ships and the player's ships exceeds 100, the computer's ships may try to warp out after ten turns. Be warned, the computer is very effective at predicting the target's course and timing fire at the closest range.

The computer's priorities for allocating power to its systems are as follows: First, it charges multiple turn charge weapons such as disruptors and plasmas. Second, it charges electronic counter-counter measures, and third it charges belts. Fourth, it makes speed and course changes, and charges single turn charge weapons such as phasers. Fifth, it charges electronic counter measurers. Lastly, it charges transporters for boarding parties and recharges shields.

The main idea about ship design is that there is no single perfect design. If you know the capabilities of the opposing ship or ships, you can probably create a special design which will be superior to that particular opponent. Therefore, you should always design your ships secretly and arrange to play against unknown ships in order to get the most challenging competition.

The starship designs provided with this article are only introductory models, and each could be improved with modifications. Each ship is a large dreadnought designed for command by the computer in solitaire play against a human player, but you could of course use or modify these ships for use by a player.

The major consideration in designing ships is the intended use of the ships. For the new strategic game, it will be important to develop new designs for large unarmed transports, fast commerce raiders, small unarmed scout ships, and cheap slow convoy escorts. But for the *CGW* starship design tournament, you should probably concentrate on single dreadnoughts for ship to ship combat. Under the tournament's 250 victory point ceiling for entries, a single dreadnought should have several advantages over an entry composed of several smaller ships. First, the single dreadnought will have more space for weapons and equipment than any entry composed of several smaller ships. Second, ships in multiple ship entry would have to duplicate the single dreadnought's costs for warp drive, armor, shields, subwarp drives, engines and belts. Third, the dreadnought's size should give it greater survivability than any smaller ship, therefore even if all the judges do well against a dreadnought entry, the dreadnought will at least have a better chance of escaping with a respectible score by warping out to safety after the tenth turn.

Ship A is a fighter carrier which should be effective against any single ship with a small number of belts. It has no armor and high speed, just like a naval aircraft carrier, and has strong rear arcs so that it will spiral away from the opponent. Lacking armor and short range weapons, it depends on speed and distance to escape injury. This design may not be able to destroy another dreadnought before it warps out, but it has a good chance of running up a small positive victory point differential, which could be decisive under the *CGW* starship design tournament rules.

Ship B is designed to transport boarding parties for capture of enemy ships. This type of ship could be a big winner in the *CGW* design tournament because you get *extra*

victory points for capture of enemy ships. This design requires lots of engines and excess power because transportation of boarding parties is a very low priority in the program's solitaire play subroutine. The target's shields must be penetrated before marines can be beamed aboard. Although this ship is very slow and clumsy, it doesn't need much maneuverability because transporters have unlimited range and are omni-directional. The forward arcs have been made much stronger than the other arcs so that the computer will turn the ship toward the target in order to hopefully close to effective phaser range.

Ships C, D and *E* are short range siege phaser dreadnoughts. *Ship C* has strong forward arcs and speed so that the computer will hopefully rush in close enough to increase the effectiveness of its short range weapons. *Ship D* has high speed and a strong arc two so that the computer will hopefully spiral in to increase the effectiveness of its phasers. *Ship E* is very slow, but it has omni-directional weapons so maneuverability is less important. This ship will not be able to run away, but it should inflict a lot of damage on any pursuer. *Ship C* also has a plasma torpedo, as it is the only design which the computer will probably be able to bring to point blank range where plasmas are most effective. The computer is usually ineffective in using plasma torpedoes, as it tends to fire them at long range.

Continued on p.40

SHIP DATA

SHIP NAME A — TECH LEVEL 6

EFFICIENCY 1 — MAX SPEED 24 — POWER 72 — MAX ACCEL 12 — MASS 16

RANGE 1 — CARGO 0 — FTBAY 3 — HULL 20

RACKS 0 — LTSKR 0 — HSKR 0

ENGIN 9 — DRIVE 12 — TRANS 0 — TRAC 0

ARMOR 0 — MARIN 0 — BELTS 5

	WEAPON	FIRE ARC	SHIELD
1	Disruptor	12345678	SHIELD 1 25
2	"	12345678	SHIELD 2 25
3	"	12345678	SHIELD 3 30
4	"	12345678	SHIELD 4 30
5	"	12345678	SHIELD 5 30
6	"	12345678	SHIELD 6 30
7		12345678	SHIELD 7 25
8		12345678	SHIELD 8 25
9		12345678	
10		12345678	
11		12345678	
12		12345678	

SHIP DATA

SHIP NAME B — TECH LEVEL 6

EFFICIENCY 1 — MAX SPEED 8 — POWER 136 — MAX ACCEL 4 — MASS 16

RANGE 1 — CARGO 0 — FTBAY 0 — HULL 89

RACKS 0 — LTSKR 0 — HSKR 0

ENGIN 17 — DRIVE 4 — TRANS 10 — TRAC 0

ARMOR 36 — MARIN 69 — BELTS 4

	WEAPON	FIRE ARC	SHIELD
1	Siege Phaser	12345678	SHIELD 1 30
2	"	12345678	SHIELD 2 14
3	"	12345678	SHIELD 3 14
4	"	12345678	SHIELD 4 16
5	"	12345678	SHIELD 5 16
6	"	12345678	SHIELD 6 15
7		12345678	SHIELD 7 15
8		12345678	SHIELD 8 30
9		12345678	
10		12345678	
11		12345678	
12		12345678	

SHIP DATA

SHIP NAME C — TECH LEVEL 6

EFFICIENCY 1 — MAX SPEED 20 — POWER 96 — MAX ACCEL 10 — MASS 16

RANGE 1 — CARGO 0 — FTBAY 0 — HULL 30

RACKS 2 — LTSKR 8 — HSKR 0

ENGIN 12 — DRIVE 10 — TRANS 0 — TRAC 0

ARMOR 48 — MARIN 10 — BELTS 12

	WEAPON	FIRE ARC	SHIELD
1	Plasma Torp	12345678	SHIELD 1 30
2	Photon Torp	12345678	SHIELD 2 28
3	Siege Phaser	12345678	SHIELD 3 28
4	"	12345678	SHIELD 4 24
5	"	12345678	SHIELD 5 24
6	"	12345678	SHIELD 6 27
7	"	12345678	SHIELD 7 27
8	"	12345678	SHIELD 8 30
9	"	12345678	
10	"	12345678	
11		12345678	
12		12345678	

COSMIC BALANCE STARSHIP DESIGN TOURNAMENT

Computer Gaming World announces it's COSMIC BALANCE STARSHIP DESIGN TOURNAMENT. Design an unbeatable ship using Strategic Simulation's COSMIC BALANCE and you can win a free SSI game of your choice. All entries must be received by CGW by **April 30, 1983**, in accord with the following tournament rules:

1. One entry per person. CGW reserves the right to publish descriptions of all entries. Your entry disk should be labelled with your name, address and telephone number. The disk envelop should be labelled with your name, address, phone number, either Apple or Atari, and each ship identified by a letter commencing with the letter "A" for your first ship, along with tech level. Include return postage if you want your disk back.

2. A panel of three or more judges will play each entry. Each judge will use a ship or ships consistent with the tournament rules. Your entry will be played by the computer at level two in solitaire play.

3. Each entry must be worth no more than 250 victory points. Each game will be played on Scenario Five: Dogfight. There can be no more than four ships per entry. Each ship must have a range of one, and no ship can have a maximum speed greater than 32. No dreadnought can have more than 12 drives.

4. Each entry will play each judge once. The difference between the entry's and the judge's victory points will be recorded at the end of the game. Each entry's score differentials against all judges will be averaged. The entry with the highest average score differential will be declared the winner of the tournament.

5. After ten turns, if any entry warps out of retreats to a range of more than 100 from the judge's ships, and if the judge's ships do not pursue, then the entry will not receive full credit for any victory points recorded *unless* the entry suffered at least 25 percent damage; if the entry suffered less than 25 percent damage it will only receive half credit for any victory points recorded; if the entry suffered zero damage then it will receive zero credit for any victory points recorded. The purpose of this rule is to discourage ship designs which immediately retreat from the judge's ship or ships, because each game with such a design might last too long or might end in a stalemate if the judge decides not to pursue.

6. Send entries to COMPUTER GAMING WORLD, P.O. Box 4566, Anaheim, CA 92803-4566. Mark your package "Anaheim Ship Design Contest"

7. Winner will be announced in the July-Aug. 1983 issue.

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ZORK!: An Overview

David P. Stone



BASIC INFORMATION

NAME:	Zork I, Zork II and Zork III
TYPE:	Adventures
SYSTEM:	Many
FORMAT:	Disk
# PLAYERS:	One
AUTHORS:	M. Blanc, T. Anderson, D. Lebling, B. Daniels
PRICE:	$39.95ea.
PUBLISHER:	INFOCOM

The Zork trilogy is a series of three enjoyable, exciting-to-experience, text-oriented adventures. Unfortunately, describing an adventure, without revealing clues, is like trying to describe a treasure chest without saying exactly what's in it. You'll just have to believe me, Zork is filled with many valuable jewels, and forgive me if I inadvertently slip you a clue to solving one of its many, many mysteries.

In **ZORK I,** *The Great Underground Empire,* you begin your adventure west of a great white house. From there you must explore and gain entrance to the underground empire. Points are gained by finding the twenty treasures and putting them into the trophy case. But, as you might expect, the treasures are not easily found. First, riddles must be answered, puzzles solved, and hazards (such as an axe wielding troll) overcome.

The most common hazards are the grues. Grues are carnivorous cave creatures that make meals of adventurers when the lights go out. Also, Zork I is inhabited by a thief who is apt to pick a fight, pick your pockets, or both.

In **ZORK II,** *The Wizard of Frobozz,* you begin in a Stone Barrow, already within the underground realm. You earn adventuring points by discovering treasures and by accomplishing difficult feats. As in Zork I, this usually means using the right objects in the right room in the right sequence. The consequence of failing to do so is death or frustration, or both. Zork II is inhabited by a prankster wizard who is obsessed with hexing you with spells that begin with the letter "F". Unlike the thief in Zork I, the wizard is more of a nuisance than an adversary.

In **ZORK III,** *The Dungeon Master,* your goals are to discover treasures and solve puzzles such as how to succesfully operate the machinery in the technology room. The documentation for Zork III states that ". . .your quest hinges upon discovering the secret purpose of the Dungeon Master who will oversee your ultimate triumph — or destruction — in the realm of Zork." These words have left this adventurer truly puzzled. I achieved the total potential score (seven out of seven), yet I did nothing to make that game description make sense. So, there may be even more to Zork III than I've discovered.

Each adventure in the trilogy is different (and sold separately, by the way), yet each retains the same feel and flavor — like visiting three different towns in the same foreign country. Each adventure occurs at a definite point in time in the history of Zork. The adventures are pretty much independent, although I would recommend experiencing them in sequence.

The original Zork was developed over five years ago on a DEC System-10, inspired by the Crowthers and Woods original adventure: Colossal Cave. Zork I and II are based directly on the original Zork (with only a few changes and a few new predicaments). Zork III is, as far as I can tell, entirely new. More details on the history of the program's development can be found in these articles by the game's authors: "IEEEE Computer", April 1979, and "byte", December 1980. (Good reading if you're into adventure software design.)

Many features, besides its longevity and years of play-testing, come together to make Zork great. However, the one feature that makes it truly superior is its *user-friendliness.* Most of the user-friendliness can be attributed directly to the parser. A parser is the portion of an adventure computer program that analyzes your input and, if well done, responds appropriately. What this means to the adventurer, is that Zork allows you to enter commands not only as complete sentences, but as very complex complete sentences. For example:

TELL THE ROBOT "PUSH THE TRIANGULAR AND THE SQUARE BUTTON."

In other adventures, I sometimes knew what I wanted to do, but had to experiment with different combinations of two word (verb/subject) input to overcome the program's limitations. Not so with Zork. Virtually every one of my commands was understood.

To add to its adventurer-friendliness, Zork tries harder than any other adventure I've ever seen to do what is commanded. Consider this exchange (Zork's replies are in parenthesis):

OPEN THE DOOR

(Which door do you mean?)

TRAP

(Done.)

Notice that Zork discriminates between like objects (in this case, different doors) in the same location, and a single word of input is all it takes to get you going again.

If Zork makes an assumption about your command, it lets you know:

OFFER WATER

(To the Troll)

Adventuring is further facilitated by Zork's ability to recognize abbreviations and to accept multiple commands by recognizing commas, conjunctions (such as "and" and "but"), and periods. So, this command is valid:

N.NE.SE.DROP ALL BUT LAMP

ZORK recognizes the above abbreviations (for compass directions) and carries out your command. You can even ask "WHERE" and "WHAT" questions!

WHERE IS THE LAMP

(You are carrying it.)

Even though the Zork parser is state of the art, its not definitive. Due to space limitations, Zork sometimes does not recognize words that it uses in its colorful, detailed room descriptions. This is true despite the fact it does recognize over 600 nouns and 100 verbs.

As I mentioned above, Zork is all text—that means no graphics. *None are needed.* The authors have not skimped on the vividly detailed descriptions of each location; descriptions to which not even Atari graphics could do complete justice. For example:

SOUTH

Great Cavern

This is the center of the great cavern. A great room of flowing color has been carved out of the limestone.

Stalactites and stalagmites of many sizes are everywhere. The room glows with dim light provided by phosphorescent moss, and wierd shadows move all around you. A narrow path winds among the stalagmites. There are many little trails leading in here and there, but a good one leads southwest toward the edge of the room, and another leads northwest.

These eloquent descriptions give their readers a real sense of the place. However, they are more than just flowery verbage that takes up disk space. Often, clues to solving the mysteries of Zork are cleverly embedded in the prose.

Zork is like most other adventures in that it consists of many episodic plots (one episode, for example, being to acquire a particular treasure). You must do the routine things that all adventurers do: fight foes, explore room, find objects, and piece them together to solve puzzles that yield treasures (or points). As always, objects are seldom useful in the same room in which they are found (for example, don't count on finding a locked chest and a key that fits in the same room.) Usually the obstacles or riddles can be solved by logic or common-sense (like finding keys to doors). Occasionally, they are not-so-logical (like rubbing things not ordinarily rubbed).

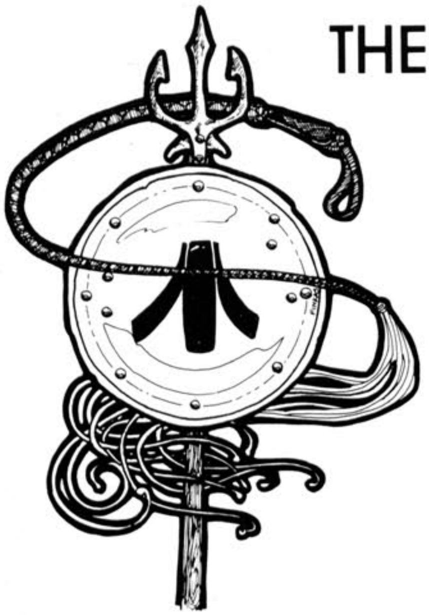
The mechanics of testing your hypotheses about how to use objects or get past obstacles is nicely done. For starter, the Zork screen display is straight-forward. The text scrolls up (and off) and the top line displays your status: location (by room name), score, and number of turns taken. You always know where to look — either at the very top or the very bottom of the screen.

There are a host of special one-word commands to simplify and facilitate your adventuring (would-be adventure software designers take note). For getting into and out of the adventure there's QUIT, RE-

Continued on p.46

Allen Doum

THE ATARI ARENA



BASIC INFORMATION

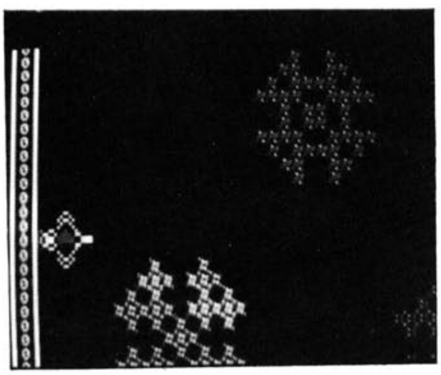
NAME:	Alien Garden
TYPE:	Arcade/Memory Game
SYSTEM:	Atari (400 or 800)
# PLAYERS:	1
AUTHOR:	Bernie DeKoven and Jaron Lanier

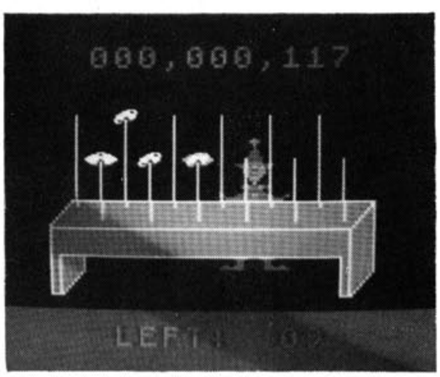
BASIC INFORMATION

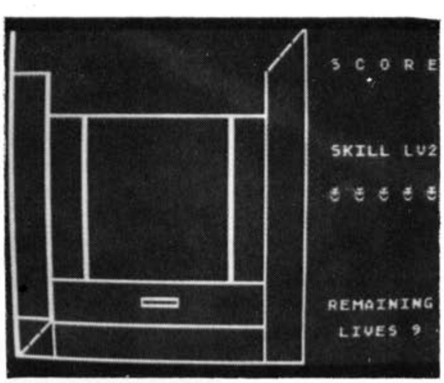
NAME:	Plattermania
TYPE:	Childrens Game
# PLAYERS:	1 to 4
AUTHOR:	Micheal Rarren and Bernie DeKoven

BASIC INFORMATION

NAME:	Monster Maze
TYPE:	Maze Arcade Game
# PLAYERS:	1
AUTHOR:	Robert A. Schilling
ALL: SYSTEM:	Atari (400 or 800)
PRICE:	$39.95
PUBLISHER:	EPYX (Automated Simulations, Inc.) Sunnyvale, CA







Not every Atari owner has a disk drive. Not every Atari owner has a tape drive. But we all have cartridge slots. This is one of the reasons that software publishers are, and will be, producing more games in cartridge format. But there is another reason that is more interesting for computer gamers.

Last year twice as many 400's were sold than 800's. That means if a software publisher produces a game that requires more than 16K RAM, he limits himself to about one third of his potential market (plus those people who have upgraded their 400's, of course). Not all of that 16K is available for the programmer's use, however. Hardware and operating system overhead requires memory; so do screens and/or custom character sets. While several very good games will fit into 16K, there are many that do not. Disk or cassette storage can only partly provide relief. Cassettes aren't random access, and even disk I/O time will take the pizazz out of an arcade game.

Cartridges become the great compromise. With up to 16K ROM added to the system with a cartridge, the amount of programmer usable memory is more than doubled. (Cartridge memory overlays RAM if you have at least 40K. 8K cartridges only overlay the last 8K of a 48K system.) That means that games that require 32K for a disk version, may require only 16K for the cartridge version.

The drawback is that cartridges are more expensive to manufacture than disks or cassettes, so the prices will be generally higher. Even so, 1983 is likely to be "The Year of the Cartridge". The larger market open to cartridge games means that there may soon be a glut of new cartridge titles.

Alien Garden is the first of three new cartridges from EPYX. In this game the player moves a "cosmic critter" through a garden of 24 flowers. At first all of the flowers are identical, but when the "critter's" mouth, wings, or stinger touches a flower, the flower will react in one of three ways:

1. The flower may grow.
2. The flower may "mutate" to the next generation of flower.
3. The flower may explode, eliminating that part of the critter.

The garden constantly scrolls vertically, reversing direction at the ends, or when any of the above reactions take place. If the player loses his mouth, the game ends. The wings and stinger will regenerate any time a new generation is introduced. The critter's mouth can eat the flower. If this happens the player scores one point for each part of the flower eaten, times the number of different generations in the garden.

While the patterns caused by "growth" are nicely done, the rest of the graphics are poor. What is particularly disappointing is the lack of color. Graphics zero (0) is used, with white on a black background. Some of the flowers are green or purple thru "artifacting". However, only four flowers can be on the same horizonal line. That means, if graphics one (1) or


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DAY
MUST TURN TO NIGHT
BEFORE MANKIND
DARES TO FIGHT

two (2) had been used instead, each generation could have been displayed using a different color. The critter is displayed using player/missile graphics, and since these have their own color registers, the critter didn't have to also be white; but it is.

Alien Garden seems to be best catagorized as a combination of arcade and memory games, although there is no way to adjust either the difficulty or the speed of play.

Plattermania is based on the juggler's routine of balancing spinning plates on top of poles. At each level the players (up to four, taking turns) must keep spinning an increasing number of plates for at least eight seconds. Bonus points are awarded for more plates or more time. The player controls a clown that slides back and forth, starting or spinning the plates with a touch of the action button. Any plate that falls before the goal is reached counts against a supply of plates. When that supply is gone, the game is over.

During each round the number of plates left is displayed, the goal appearing during the interludes, which are nearly as long as the rounds of play. Since the same circus tune plays during each interlude, with no way to turn it off, this game seems aimed at children, but the children who played it for us got bored nearly as fast as the adults.

Monster Maze uses a somewhat familiar theme. The player (one only) wanders through a maze picking up gold bars that lie almost everywhere. There are monsters chasing you, but if you get one of the vitamin pills that are laying about, you can destroy them.

There are three major differences between Monster Maze and (surprise!) Pac-Man. First, the maze has 16 levels. Holes in the floor of one level, will drop the player, or monsters, down to the next. Second, the game is played from a point of view inside the maze. It is not strictly animated, as you jump to the next space. You can get an overhead view, but may not move while doing so. Third, the graphics are terrible. This game will also be available on the TRS-80, with no changes necessary in the maze graphics except background color. (The monsters in the Atari version use player graphics, and there are some sound effects.)

The speed of play is slow, even at the higher difficulty settings, and the monsters move more quickly while the player is moving than they do while he is standing still.

In all three of these games the ideas seem undeveloped and the implementation amateurish. Alien

Continued on p.40

ULTIMA II: A Review

James A. McPherson



NAME:	Ultima II
TYPE:	Fantasy
SYSTEM:	Apple II
FORMAT:	Diskette
# PLAYERS:	One
AUTHOR:	Lord British
PRICE:	$59.95
PUBLISHER:	Sierra On-line

You can stop holding your breath, ULTIMA II has finally arrived. Lord British's sequel to ULTIMA continues the saga with enhanced detail and a larger universe.

This is an adventure across time and space that takes you from three-dimensional dungeons deep in the ground through time doors to the future and interplanetary trips throughout our solar system, plus more!

This colorful hi-res program has you traveling across a scrolling landscape of grasslands, mountains, and oceans with constantly moving waves.

The game resides on two disks with three sides of data. Along with the instruction book there is a cloth map of the world showing the approximate locations of the time doors. It is wise to read the instructions carefully.

THE QUEST

In Ultima I your quest was to destroy the archevil Mondain. At the time of his demise you might have thought that the adventure was finished. However, rumors have been spreading, and it is believed that before Mondain was rubbed-out he had been training an apprentice. The rumor continues by stating that this apprentice has grown even more powerful than Mondain and that the new evil spreading throughout the land is the result of this force. Your quest is to find and destroy MINAX, enchantress of evil, apprentice of Mondain.

IN THE BEGINNING

As in ULTIMA, you must create your character and play the game on a separate play disk; you only use the master disks for booting and going in to space. This does save wear and tear on the original disks.

To create your character you must distribute 90 points between the five attributes (strength, agility, charisma, wisdom, and intelligence), choose your sex, class, and profession.

In distributing points for attributes I concentrated on giving the most to agility and intelligence, recognizing that each attribute must have a minimum of 10 points. Agility is your skill at wielding a weapon and I wanted to be able to use the deadliest weapon as soon as I could. Intelligence increases your skills in bargaining and, more important, in the casting of spells. You learn quickly in the dungeons and towers how important this ability can be.

Strength determines the damage you can inflict on a foe in a fight. Stamina reflects your ability to defend against attack. Charisma governs your success in bargaining with merchants and Wisdom is what you need to cast spells successfully.

Once you begin play you will be able to increase your attributes as high as ninety-nine. This is not as easy as it sounds, nor is it inexpensive.

In your choice of sex (sorry folks, only male and female is available) you can increase certain attributes. A male character will increase your strength by ten and a female will increase your charisma by ten.

You then pick between five races and four professions: human, elven, dwarven, hobbit and fighter, cleric, wizard, thief. Each of these adds points to certain attributes.

There are also magic spells available to clerics and wizards. You have nine spells in three categories:

Spells both Clerics and Wizards can use:

1. Light—creates magical illumination
2. Ladder down—teleports you down one level in a tower or dungeon
3. Ladder up—teleports you straight up one level in a tower or dungeon

Cleric's Spells:

4. Passwall—destroys the wall in front of you
5. Surface—teleports you immediately to the surface
6. Prayer—calls for divine intervention to destroy your foe

Wizard's Spells:

7. Magic Missile—offensive magic weapon
8. Blink—randomly teleports you anywhere on the same level
9. Kill—attempts to obliterate your foe by magic

These spells are purchased in stores and can only be used in dungeons and towers. They are for killing and teleporting.

When your character is complete you are ready to explore Ultima II.

THE WORLD OF ULTIMA II

There are five time periods in Ultima II connected by time doors that appear off and on throughout the game. In order to be confident of your whereabouts these time doors should be mapped, which you can do with the aid of the cloth time map provided.

The time periods range from the predawn legends era to the post-apocalyptic A.D. 2112. Each period has unique locations and inhabitants to help or hinder you in your quest. You must talk or as they call it "transact" with everyone in the game otherwise you will miss some important clues, clues that are required to finish your quest. You may even meet someone you know.

Continued on p.45

Ultima II

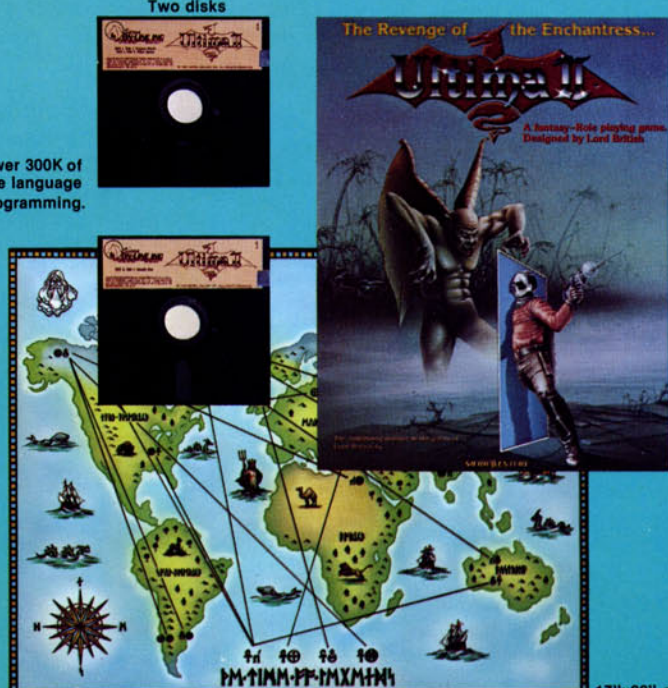


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Softalk, January 1983

Two disks

Over 300K of machine language programming.



17"x22" cloth map

Ultima II for the Apple II/II + (48K) is available now for $59.95 from your local dealer or from:

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Marauder is available for Apple II/II+ (48K) and Atari 400/800 (40K) for $34.95. Order from your local dealer or directly from: Sierra On-Line, Inc., Sierra On-Line Building, Coarsegold, CA 93614, (209) 683-6858.

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LATCH ONTO THE BULL:
The "Bear" Facts About MILLIONAIRE!

Johnny L. Wilson



BASIC INFORMATION

NAME:	Millionaire
TYPE:	Investment Strategy
SYSTEM:	Apple, Atari 400/800, IBM PC, Osborne and other CP/M systems
FORMAT:	Disk
# PLAYERS:	1
PRICE:	$79.95 to $99.95
PUBLISHER:	Blue Chip Software Woodland Hills, CA

Ever notice how many books there are about *How to get rich in the stock market*? Ever wonder why someone who had really gotten rich on the market needed to write a book? I know I have. I'm also glad that Jim Zuber *didn't* write a book. He took his experience on the stock market and used it to create a useful instrument with which to educate and entertain. MILLIONAIRE doesn't pretend to offer an esoteric system for making one's fortune, but it does have a marvelous capacity for introducing one to the basic mechanisms of the stock market. It doesn't offer the spurious potential of making a killing on the market that some fictionalized simulations do, nor the exotic gimmicks like *selling short* (see UNFAIR CRITICISM). It does, however, offer the user a chance to improve his/her investment sense through experience and increased options at each level of expertise. MILLIONAIRE is an exciting game, but its availability for business-oriented computers suggests its potential as a teaching tool, as well.

THE FIFTEEN STOCKS

Industry Group	Stock	
Computer	Control Data	(CDC)
	IBM	(IBM)
	NCR	(NCR)
Oil and Gas	Conoco	(CNO)
	Exxon	(EXX)
	Mobil	(MOB)
Retail	Kmart	(KMT)
	Sears	(SRS)
	Tandy	(TDY)
Auto	General Mtrs.	(GM)
	American Mtrs.	(AM)
	Bendix	(BDX)
Heavy	U.S. Steel	(USS)
	Dow Chemical	(DOW)
	Caterpillar	(CAT)

MILLIONAIRE enables one player to buy and sell fifteen different recognizable stocks in five different industry groups over the course of seventy-seven weeks of transactions. The computer creates ninety-one weeks of stock market environment and reveals thirteen weeks of history before the player is allowed to begin purchasing securities. Each week (game turn), the player will receive four basic tables of data prior to the "command mode" (where the player may research, buy or sell). These are: 1) *Stock Market Graph* (showing the overall market trend); 2) *Industry Group Graph* (one graph from one of the five groups, each week); 3) *News* (earnings reports, volume indications, industry trends, company announcements and news which may affect business); and 4) *Market Report* (changes in prices, high and lows, and average share changes on the market.

After this sequence, the player is free to do research (examine graphs of individual stocks or industry groups, review news reports, or peruse his portfolio); start a transaction (buy, sell or borrow); advance to the next week; or save the game. IMPORTANT NOTE ON SAVING THE GAME: though the program is capable of retaining the net worth and status of up to 14 players, the prodigious amount of data involved in each different market environment means that only one game can be saved at a time. This is not clearly stated in the original manual, but will be cleared up by a new manual which is now in preparation.

Each player begins play with $10,000 as a *Novice* and seeks to increase his net worth to the levels of $12,000 (*Investor*), $18,000 (*Speculator*), $40,000 (*Professional*), $100,000 (*Broker*) and, of course $1,000,00 (*Millionaire*). Each plateau adds new variables of strategy. For example, an Investor is able to buy on margin (borrow a percentage of the total purchase price of your stocks), while a Novice works on a strict cash basis. Once a player has achieved a net worth and status, the computer keeps it on record and the next game begins from that net worth. This enables up to 14 players to "compete" over a long period of time.

SYSTEM DEFINITION

(see CGW 2.5, p. 35)

In creating the simulation, the designer studied years of financial journals in order to determine the relationship of *earnings, volume, news announcements, general* and *industry trends* to specific stocks. The fifteen stocks were selected on the basis of their more or less typical behavior. In general, the research showed that there are three basic variables which work together at an approximately equivalent weight. These are: 1) the overall stock market picture (Bear -, Bull +, or Mixed); 2) the industry group (growth, glamor, stable or depreciating); and 3) the stock itself (sound corporate management and policy, growth potential, solid marketing base and reasonable research and development). The documentation noted that earnings reports are often discounted (Wall Street-ese for "ignored") and that volume can indicate *either* big gains or big

losses. Therefore, the change probabilities are based on the three major indicators noted above.

There are, according to the designer, approximately 15^{21} possible combinations of stock prices alone and an equivalent number of possibilities for the general market and industry trends, as well. The fact that these probabilities influence each other indicates a very satisfying "continuous" probability system as opposed to the strict "discrete" probability of boardgames and less sophisticated programs (see CGW 2.6, p. 16 for further information). This enables the player to use realistic strategies in playing the game.

STRATEGY NOTES

Pay attention to news! Every news event has effect on a given stock and often on an entire industry group. for example, a technology innovation by IBM will usually indicate a swift rise in IBM prices for the next week or two and often has a derivative effect on CONTROL DATA and NCR, as well. In my games, hard times for BENDIX (Auto Industry Group) is a significant signal for me to unload GENERAL MOTORS or AMERICAN MOTORS, as well.

Pay attention to trends! Since the trends of the market in general, industry group and stock in particular are given equivalent weight in the probability matrix, it is highly unlikely that a stock will rise when its own industry group and the market in general are declining. I can testify that this is a realistic feature, having owned hotel stock during the 1974-'75 Bear Market due to the Arab Oil Embargo. My company had increased earnings and real growth and expansion, but couldn't buck the trends.

Discount earnings! Very rarely does an earnings report cause a significant change in the real stock

market. This is, perhaps, because there are numerous ways to "hide" actual earnings in corporate expansion, depreciation, new acquisitions and tax shelters. Therefore, very rarely do they affect the stocks within the parameters of the game.

Dollar cost average! In spite of the obvious educational opportunities to be gleaned from this program, it *is*, after all, also a game. Now, whereas I might want to sit out of the real market for a time, I usually want to get into a game as fast as I can. That can be fatal in MILLIONAIRE, because it faithfully creates some realistic Bear markets. What can be done?

One strategy is dollar cost averaging. This means to buy stock in small quantities on a regular basis instead of one large quantity all at once. Many people eschew this strategy because you have more brokerage fees, but it is successfully used in real life by small investors through the New York Stock Exchange's Monthly Investment Program (MIP). The theory is that 100 shares of stock at $10 each needs to appreciate $2 per share for the investor to make 20% on the investment. However, 200 shares of stock at $5 each only needs to appreciate $1 per share for me to make 20% on my investment.

How does that help me make money during a bear market? First, I select what I believe to be a sound stock (for example, EXXON). I buy 10 shares of EXXON at $60 per share ($600 invested) and it starts to go down in price. Some weeks later, I spend $600 more to buy EXXON at $40 per share. I now have 25 shares and have spent $1200 (plus commissions of course). If I had just held on to the first 10 shares, the price would have to reach $66 per share for me to make 10%. However, by buying on the down trend, my average cost on 25 shares is $48 per share and the stock only needs to recover to $52.80 instead of $66 in order for me to make 10%. I keep buying the stock at regular intervals and bring the break-even point down. This way, I can be in the market without worrying about whether it has actually hit bottom or not. This enables me to "play" the market on the downside while continually minimizing my risk (assuming the stock is sound enough to ever actually recover). The "dollar cost averager" won't make phenomenal amounts of money, but if he selects sound investments, he should make *consistent* profits.

Be careful with options! When a player reaches the level of Speculator ($18,000), he is eligible to use CALL options. A CALL option anticipates a significant rise in a stock, so it provides for the investor to be able to purchase the stock at a slightly higher price (the STRIKING price) at a later date. This assumes that there will be a much higher purchase price on the stock at the later date and thus, the investor makes money on the difference in value. Since options are much less expensive than stock, the investor stands to make significantly more money if he is correct than he would with the full purchase price of the stock at stake. When a player reaches the Professional ($40,000), he may use PUT options. A PUT option anticipates a significant decline in the stock, so it provides for selling the stock at a slightly lower price (the STRIKING price). This means that the difference between the much lower price and the slightly lower STRIKING price (if the investor is correct) is the potential profit.

Since options are a time valued mechanism, recognize that values of options usually drop as they near their expiration dates. This means, of course, that one should only invest in options on stocks where there is an expectation of *significant* fluctuation in the relatively near future. For example, it would be foolish to be hedging against a Bear market using "dollar cost averaging" and then invest in CALL Options on the same or related stock. As the manual notes, it is possible to see the stock make a moderate gain and still have the player lose money on the option because the expiration date is so near.

UNFAIR CRITICISM

It has been suggested by some gamers experience with the other "stock market games now on the market, that the game suffers from a missing mechanism. Many who are new to the strategies of investments are disappointed because the possibility of "selling short" is not available in the simulation. This is undoubtably because "selling short" (selling stock on credit that you don't actually have) is an exotic strategy which depends on a very hefty line of credit. It seems superfluous to a market which has PUT options. If the investor feels a stock is headed for a certain decline, he stands to make much more money by playing the less expensive PUT options (which enables him to option for more total shares) than taking the riverboat gamble of "selling short" on the expensive market value of stock itself.

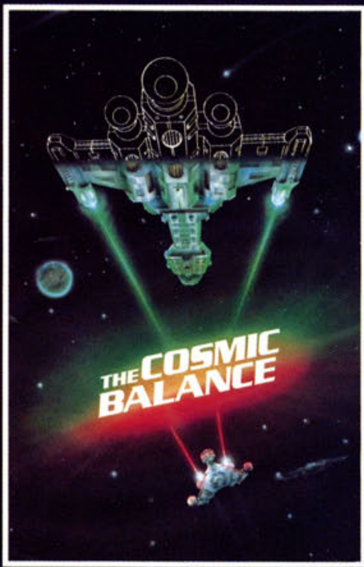
WISHFUL THINKING DEPARTMENT

Because of the enormous amount of data to be saved for each game environment and the problem with saving more than one game, I wish that the program allowed for saving onto a separate disk, similar to several other programs. This would make wonderful use of the potential for 14 players to use the program and compete against each other on a continuous basis.

I also wish that more than one player could buy and sell in the same market. My profits and high score in a Bull market may be very poor compared to a friend's moderate gains and relatively low score in a bear market. The only way we can actually compete is to work in the same "game time" frame. I realize this would probably entail using both a game disk and data disk, but it would be worth it.

Continued on p.40

THE GALAXY AWAITS YOUR COMMAND.



When SSI introduced THE COSMIC BALANCE™, it was hailed as one of the finest **tactical** space game ever made: It not only gave you starship combat that was fun, fast and furious, it also let you design your ships. You became both starfleet commander and starship architect.

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Space may be what these games are all about, but there isn't enough of it here to adequately describe them. But why read when the Universe beckons? Plot a course to the nearest computer/game store and get these games today! You have a destiny to fulfill — a destiny that lies out there among the stars.



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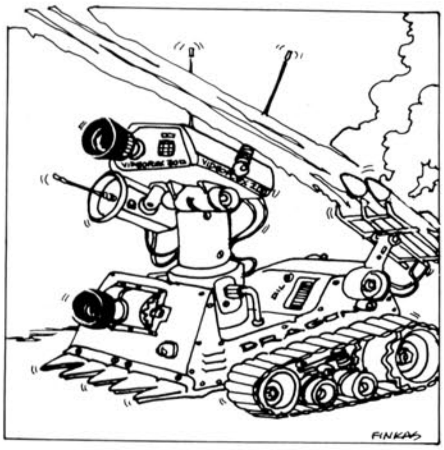
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ROBOTWAR: Tournament Results



Anaheim (CGW) — The people here at COMPUTER GAMING WORLD are still buzzing over the recently held CGW ROBOTWAR TOURNAMENTin which, as Howard Cosell would say, "Armored automatons of Armageddon reduced each other to piles of robotic refuse, fit only for recycling." Twelve quarrelsome cybernetic competitors were entered in the competition (along with 3 fill-in robots). In an exciting contest DRAGON, by Doug Hogg of Los Angeles, rolled away as the big winner.

The competition was fierce with the pre-tournament favorite, NORDEN B, finishing third. NORDEN B, an improved version of NORDEN+ who won last year's tournament was tied for the lead after the round robin but was held at bay in the finals by the likes of DRAGON, CORNER, and HOT ROD.

Three robots which came with *Robotwar*, by Muse Software, were used as fill-ins or "shills".

THE GAME

Robotwar, by Muse Software, is a game in which players design robots using a special robotwar computer language not unlike BASIC. Once the robots are designed and tested they are put up against one another in battle. As many as five robots can be on the battlefield at one time, moving, searching for one another, and firing their cannon when they see an enemy robot (all other robots are enemies). Once a robot is on the battlefield the player/designer has no control over the actions of his creation. He must anticipate, in the design stage, the possible situations in which his robot might find itself and program accordingly, making the game great for learning computer logic. Most robotwar designs are the end product of months of refinements.

THE ROBOTS

ARC MAN — entered by Bill Logsdon of Tulsa, OK. Arc Man travels in a wide clockwise circle, varying his right hand turns according to the distance from the walls. Arc Man uses a vector movement routine based on "a two term Taylor's approximation of the sine function".

AROUND — another entry by Bill Logsdon. Around goes around the outer perimeter of the arena in a counter-clockwise manner. In effect it becomes a bottom robot, then a side, then a top, etc.

BOTTOM — A fill in robot from the original game. Bottom goes to the bottom of the playing field then travels back and forth scanning upward and firing at any robots he sees.

CORNER — entered by David A. Jones of Tulsa, OK. Corner heads for a corner position (usually the upper left) and, in that tuck position, can maximize his scan and firepower by reducing the area to be covered to a 90 degree arch. When damaged, Corner steps out of the corner momentarily to minimize damage from repeat fire. Corner watches closely for "edge" robots making their way toward him (the bane of any corner-type robot).

DIAMOND — Another Bill Logsdon entry. Diamond remains stationary until damaged. When hit he high-tails it to another wall at an angle with the overall pattern looking like a diamond. He has a high speed tracking routine that can destroy center moving robots.

GRAVE — entered by Robert Hogg (Doug Hogg's 8 year old son who programmed it himself, although Doug wrote down some code for him). Grave goes back and forth across the top firing downward. He will stop when he sees a side robot directly below him and fires continually until the other robot moves or dies.

DRAGON — the tournament winner by Doug Hogg of Los Angeles, circles the screen just off the edge efficiently strafing robots along the side. He will also, in some situations scan into the middle and attack center-type robots. The secret in Robotwar is to survive. Points are awarded for surviving rather than for killing. If a robot can avoid getting damaged he will win regardless of whether he inflicts a great deal of damage (let the other guys slug it out, I'll just stay here out of the way and win). This design philosophy has a flaw however. Obviously some firepower is needed, for eventuallyonly two robots will be left in a battle. A passive robot is then doomed. Dragon is a robot that is designed to minimize damage. And, even though his firepower is not as effective as NORDEN B, or CORNER, he does pack enough punch to take out an opponent. His pattern, just off the edge makes him less likely to be damaged. He won't collide with the edge and corner robots, and is far enough from the center to avoid direct run-ins with center robots.

HOT ROD — A bottom robot that travels left and right shooting upward even if no target is detected. It checks both to the right and left for other bottom robots and will fire at same until death of one or the other. The random shots are more effective than one might expect. When a robot is spotted fire is very accurate.

Hot Rod was entered by Frank Krogh of Los Angeles, Cal.

JAWS — Another entry by 8 year old Robert Hogg. Jaws makes his way to the bottom center of the field. Where he is effective in hitting center robots such as Norden.

MOVER — A fill-in robot that moves when he is hit. It search 360 degrees.

NORDEN B — entered by Richard Fowell of Palos Verdes Estates. A refined version of last year's winner, NORDEN+; Norden B has a very effective tracking algorithm and is impressive at hitting robots while moving a high speeds. Norden B waits a short time to allow side and corner robots to clear the center then begins an elliptical movement pattern that changes when hit.

STANDINGS AFTER ROUND ROBIN

1. HOT ROD	(58 pts.)	7. AROUND	(44)	11. DIAMOND	(31)
NORDEN B	(58)	GRAVE	(44)	12. WILDMAN	(29)
3. DRAGON	(48)	9. MOVER	(37)	13. THOR II	(24)
ZIG ZAG	(48)	10. JAWS	(35)	14. BOTTOM	(23)
5. CORNER	(47)			15. RANDOM	(17)
ARC MAN	(47)				

THE FINALS (25 Battles)

1. DRAGON	67 pts.
2. CORNER	50
3. HOT ROD	49
NORDEN B	49
5. ZIG ZAG	35

RANDOM — Another fill-in robot. Random moves in a random fashion firing if he sees another robot.

THOR II — entered by David Meredith of Merrimack, NH. Thor II is corner robot who heads for the nearest corner. He often lost on slug-outs with "Corner".

WILDMAN — entered by Neal Buck of Tulsa, OK. The editor's favorite (for it's colorful nature, certainly not for it's ability to win). Wildman is a 100% offensive robot (his victims certainly thought he was offensive). When he spots another robot he charges pell-mell after it firing all the way. Robots on the move could escape his tracking about two thirds of the the time, but the other one third of the time they were in for real trouble. Robots that did not move—died. Unfortunately for Wildman, his offensive nature was his own demise as he had no damage checking routine which caused him to walk into certain death more often than not.

ZIGZAG — entered by Algis Seskus of Broken Arrow, OK. Zigzag moves in a zig-zag fashion searching three times on each leg of the zig-zag.

THE CONTEST

All robots competed in a round robin in which each contestant robot faced each other contestant an equal number of times (24 battles for each robot). The top 5 robots entered the finals. There was a tie for the fifth position between Corner and Arc Man. Corner won the best of 7 playoff to go to the finals. The finalists fought 25 battles against one another with DRAGON coming out comfortably on top. Congratulations to DRAGON and it's designer Doug Hogg!

```
     ROBOT  "DRAGON"   BY DOUG HOGG

BEGIN
  223 TO S
  IF Y > 127 GOTO CHECKDOWN
  IF X < 127 GOTO SLOWUP
  GOTO SLOWRIGHT
CHECKDOWN
  IF X > 127 GOTO SLOWDOWN
  GOTO SLOWLEFT

GOUP
  0 TO K TO H
  0 - S TO V TO SPEEDY
  GOSUB MOVEIT
SLOWUP
  30 + R * 4 TO SPEEDY

GORIGHT
  90 TO K
  0 TO V
  S TO H TO SPEEDX
  1000 * 3 TO J
  GOSUB MOVEIT
SLOWRIGHT
  0 - R - 30 - 5 * 4 TO SPEEDX

GODOWN
  180 TO K
  S TO V TO SPEEDY
  0 TO H
  GOSUB MOVEIT
SLOWDOWN
  0 - R - 30 - 5 * 4 TO SPEEDY

GOLEFT
  270 TO K
  0 TO V
  0 - S TO H TO SPEEDX
  10 TO I
  IF 5 < W TO I
  I TO W
  GOSUB MOVEIT
SLOWLEFT
  30 + R * 4 TO SPEEDX
  GOTO GOUP

MOVEIT
  K - 8 TO L
  K + 90 TO M
  N - 5 TO RADAR
  K + 180 TO O
  24 - RADAR TO R
  IF R > 0 N - 2 TO AIM
  IF R > 0 TO T TO SHOT
  IF T = 1 DATA + 1 TO DATA
  INDEX + 1 TO INDEX
  > 4 1 TO INDEX
  IF DATA < 2 K - 17 TO AIM
  IF DATA > 1 K + 85 TO AIM
  IF R < 24 205 TO SHOT
  0 = H TO SPEEDX
  = V TO SPEEDY
  K + 203 TO N
  1 TO G TO T
  GOSUB MT
  ENDSUB
LOOKBACK
  O TO RADAR
  0 - RADAR TO R
  > 0 O TO AIM
  IF R > 0 R + 27 TO SHOT
  -256 - R TO R
  IF R < 0 > -105 ENDSUB
BACKSHOT
  N - 4 TO N TO RADAR
  25 - RADAR TO R
  > 25 TO T
  > 25 N - 1 TO AIM
  IF R > 25 TO SHOT
  > 25 0 TO DATA

MT
  K TO RADAR
  0 - RADAR TO R
  < 0 > -105 ENDSUB
  > 0 K TO AIM
  IF R > 0 R -10 TO SHOT
  IF R > 0 1 TO DATA

  L - 4 TO L TO RADAR
  G - 1 TO G
  < -2 ENDSUB
  0 - RADAR TO R
  > 0 TO T
  > 0 -675 * 3 / R + 20 + L TO AIM
  IF R > 0 TO SHOT
  > 0 0 TO DATA

  IF DATA < 2 GOTO LOOKBACK

  M TO RADAR
  -15 + W TO F
  0 - RADAR TO R
  > 110 J / R TO F
  IF R > 0 < 111 -3 TO F
  M + F TO AIM
  R + 24 TO SHOT
  215 TO SHOT
  GOTO MT
```


The arcade-warp is open!
YOU CAN RUN BUT CAN'T HIDE. YOU CAN KILL BUT CAN'T ESCAPE.
Tubeway! It's an insidious invasion route created by beings from a parallel universe—a strange, geometric universe. You're trapped on the rim as their fleet swarms out of the warp on a voyage of conquest. The battle is yours alone—and it's far from easy because normal strategy doesn't work! . . . you have to fight by their strange, geometric rules!
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COREY WOLFE

Listen To The Mockingboard:

Sound & Speech For The Apple II

Thomas Cleaver



You sit down before your computer and boot your new game disk. A wizard materializes on the screen, accompanied by a clap of thunder from your eighty watt stereo sound system. The mage points a bony finger at you and asks in a voice like the rustle of dry leaves, "Do you dare accompany me to the Lair of the White Worm?" You answer in a quavering voice, "Yes, my liege. Lead on." And the adventure begins.

What's this? Games that talk? And respond to spoken English? Well, yes and no. The above game is still a dream, and it will not be a reality until further hardware and software advances are made.

Speech recognition by computers is still in its infancy. Some progress has been made in speaker-dependent voice recognition, but you have to train the computer to understand your voice, and massive amounts of memory are required just to recognize a few words. Speaker-independent voice recognition, which would be required for the game described above, is still at least ten years away from being practical.

But computer speech is here today. Sparked by Texas Instruments research into linear predictive coding (LPC), as used in Speak-and-Spell, and Votrax research in phoneme synthesis, there are now several speech peripherals that can be purchased for personal computers. *The Mockingboard* is one of them.

The Mockingboard Sound/Speech I plugs into any of the peripheral slots of the Apple II. It has two separate outputs which can be plugged into a stereo system or directly into speakers. I have found that the signals are quite strong, so that direct connection to speakers gives plenty of volume. One of the outputs provides sound effects, and the other provides synthesized speech. Both outputs have volume controls. The board retails for $299 (talk is not cheap).

SOUND EFFECTS

You may ask, "Why do we need special sound effects hardware when we can get all the sound effects we need through the Apple's built-in speaker?" The things that have been done in sound generation within the Apple are truly amazing. The typical Joe Computerfreak doesn't realize the contortions a programmer has to go through to get a specific sound from Apple's crummy little speaker. He must write his code in machine language, and he is limited to doing but two things: pushing the speaker cone out and pulling it back in; therefore he must make each sound by "bit-banging" — driving the speaker cone in or out at precisely spaced times. And worst of all, he must "integrate" the sound effects with the rest of the program. For example in an arcade game program the programmer must move an object on the screen, bang the speaker, check to see if a key has been pressed, bang the speaker, check for object collisions on the screen, bang the speaker, etc. I have the greatest respect for the Budge's and Gebelli's who can make all this sound and motion seem so smooth.

Special sound effects hardware, such as is available in the Atari and the Commodore 64, make this programming task much easier. You just set up the sound you want, start it running, then go back to your display and operations program. This sort of thing is possible in the Apple only by use of additional hardware, such as the Mockingboard, plugged into a peripheral slot.

The sound effects channel in the Mockingboard is based on the General Instrument AY-3-8910 Programmable Sound Generator chip. It contains three tone generators, a noise generator, a mixer, and an envelope generator. The frequencies of the three tones can be very finely controlled so that, for example, a three-note chord could be produced. The noise generator can be used to produce sounds like gunshots and explosions. The envelope generator provides various amplitude modulation schemes for the sounds; for example, a rising and falling amplitude with noise as the input will produce a sound like waves on a beach.

Sweet Micro Systems, the manufacturer of the Mockingboard, provides a demo diskette to show off the sound effects. They include bomb, laser, pump, helicopter, train, and several others. They are all fairly well done, but they aren't much better than could be expected from speaker bit-banging. The disk also contains a music routine, which is a bit better. It uses the Apple keyboard as a piano.

There was no software which showed how to program the sound generator chip, how to edit sound effects, or how to use the capabilities of the board in your own programs. There weren't even any useful comment statements in the demo programs.

To make matters worse, the accompanying documentation was of little help in this respect. The instructions for developing custom sound effects were sketchy, at best, and were directed to the machine language programmer. A BASIC programmer would be S.O.L. if he tried to use this manual. By fooling around in machine lauguage I was able to make a few rudimentary sound effects, but I quickly determined that a sound effects editor was a minimum software requirement.

SPEECH EFFECTS

The speech channel of the Mockingboard is based on the Votrax SC-01 Speech Synthesizer chip. It uses

Continued on pg.47

beep

In the beginning . . .

beep was all you heard

Not a Princess cried. No thunder clapped. Bombs didn't explode and doors didn't slam. Villains were silent and aliens were too. The Wizards were speechless and that wouldn't do.

Now there is MOCKINGBOARD™

You no longer have to imagine the roar of the crowd or the magical voices of extra-terrestrials or your favorite song. What you once imagined can now be heard.

Experience all the moans, the music and the magic from

Datamost, Sir-Tech Software, AMI, Sierra On-Line, Gebelli Software, Legend Industries, Penguin Software, Edu-Ware, Sunnyside Soft, Hayden Software, Budgeco, American Educational Software, Designware, Vagabondo Enterprises, M and R Enterprises, G.Y.S.T. Lightning Software, Synergistic Software, Earthware

mockingboard™

Sweet Micro Systems, 150 Chestnut Street, Providence, Rhode Island 02903 401-273-5333

MOCKINGBOARD™ is Apple II*, Apple II Plus* and Apple IIe* compatible and available at fine computer stores worldwide.

*Apple is a registered trademark of Apple Computer Company.



the learning game

by Bob Proctor

This month we'll look at four Apple games suitable for pre-schoolers. When reviewing software for young children, I pay particular attention to three factors. Let's look at these first to set some guidelines.

First is simplicity. It's confusing to have to press the escape key in one place, the return key in another, and the spacebar in a third. Better to have one key serve the same function everywhere; this is an important factor in what the ads call "user-friendliness". I call it simple common sense. Adults cope better with poor design since they can read instructions on the screen. For non-readers, the program must be kept simple enough that they can remember what to do. This usually means a menu — to remind you what is available and to simplify (one keystroke) the process of getting there. Clever use of pictures and graphics can help too.

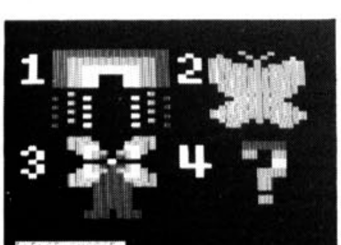
Another important aspect of software for kids is error-trapping. This is the ability of the program to ignore or recover when you do something wrong. Children often like to try something just to see what happens; this is the primary way they learn about the world. Sometimes they experiment within the context of the program (and any good game for kids should allow this), sometimes they'll experiment outside — like hitting the *RESET* key "just for fun". This curiosity is good; if you discourage it in any way, you discourage learning. And a program that has to be re-booted is certainly discouraging. When testing these games I tried as many "experiments" as I could. I also gave them to the kids with encouragement to try anything that wouldn't damage the disks.

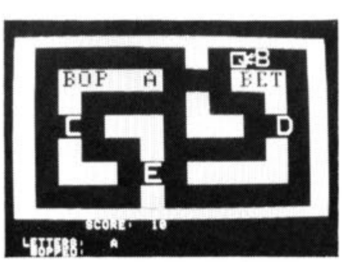
My children (one is six and one eleven) and their friends also help me evaluate the third important aspect of these games: longevity. By this, I simply mean how long any one child will stay interested in it. That natural curiosity mentioned above will cause them to play ANY game once. There is a tendency, though, to grow bored with a game before the skills involved are truly mastered unless there is something that motivates them to keep playing. It has to be enjoyable and stay enjoyable. This means you shouldn't do or say anything which suggests failure.

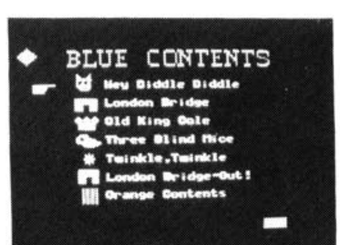
Let's start with the game designed with the youngest "users" in mind. This would be **JUGGLES' RAINBOW** from The Learning Company. It uses brightly-colored rainbows, butterflies and windmills plus lots of music and will even keep infants entertained. It requires no reading skills, anyone who can recognize the numbers from *1* to *3* can use it without help. Option four on the menu, the question mark, is a configuration screen that lets anyone who CAN read turn off the sound or the picture clues (thus forcing the player to read the wordclues). Once you select a number, you don't have to hit any specific key. The keyboard is divided into banks of keys to teach the concepts of left, right, above, and below. You can divide the keys with a strip of yarn or paper —blue is best since the program uses a blue bar to divide the screen.

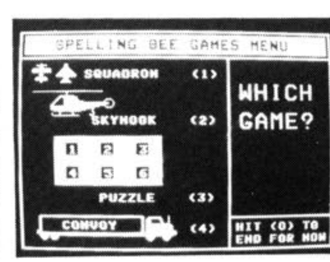
When your child begins to learn the alphabet, consider getting **BOP-A-BET**. This is a maze game where you steer a boxing glove using four keys. You bop

NAME:	JUGGLES' RAINBOW	BOP-A-BET	MICRO MOTHER GOOSE	SPELLING BEE GAMES
TYPE:	Spatial concepts	Alphabet	Pre-school arcade	Spelling
SYSTEM:	Apple II+, 48K, 3.3	Apple II+, 48K, 3.3	Apple II+, 48K, 3.3 P or J	Apple II+, 48K, 3.3, P
FORMAT:	Diskette	Diskette	Diskette (DOS 3.3)	Diskette
BACKUP:	$12 by mail	None	Copyable	None
# PLAYERS:	1	1	1	1 to 4
PRICE:	$45.00	$34.95	$39.95	$29.95
PUBLISHER:	The Learning Company Portola Valley, CA	Sunnyside Software Fresno, CA	Software Productions Columbus, OH	EDU-WARE Agoura, CA









letters in alphabetical order by pushing the space bar and if you bop them out of sequence nothing happens. The object is to bop as many as you can within a time limit. When you boot the disk, there are some questions that let you change the time limit, the speed of the bopper, the keys used, and choose upper or lower case. This part requires an older person who can read but once started, four and five year-olds will have no trouble.

MICRO MOTHER GOOSE will also entertain infants. It allows you to select one of nine nursery rhymes; it plays each tune while the words and some animated graphics appear on the screen. The menu (only half is shown) is well done — it has a distinctive symbol alongside the words so that non-readers can use the game once they get familiar with it. Many children will know some of these rhymes, so seeing the words on the screen may help in learning to read. However, only the very young (with no concept of reading) want to see the rhymes more than once, what older kids want to do is play the three arcade games which are also part of this package. These games are based on themes from nursery rhymes and require paddles. The simplest is *Lamb Scram*, where you help Mary get three lambs through a hole in the hedge before the Big Bad Wolf gets them. Then you have *Splat!*, wherein you catch eggs as they fall off a wall. Finally you have *London Bridge-out*, which is our old friend Breakout (or Brick-out) in new clothes. Although much simplier than other versions of this game, it is still the most difficult of the three. These games are well done and should provide kids in the three to six group with lots of fun — unless older kids are playing something else, in which case the younger crowd will want to play the same thing.

The last game we'll look at this month is **SPELLING BEE GAMES** from Edu-Ware. This is a set of four games which share a common vocabulary and theme — each of the words is represented graphically by a hi-res picture. The games are *Squadron, Skyhook, Puzzle,* and *Convoy.* Squadron requires two players and paddles; each player flies an airplane to "shoot down" the word that matches the picture at the bottom. The other three games are all for one to four players. In Skyhook, you see a picture and some scrambled letters; you use the paddle to control a helicopter to pick up letters and put them in the right place to spell the word. In Puzzle, you get a few seconds to memorize six pictures before they are concealed; players then take turns guessing where the picture was that goes with the word at the bottom. Convoy is a truck race in which a picture appears at the top of the screen and players take turns typing the next letter in the word; each correct guess moves your truck forward a little. Note, that Convoy is the only game that requires you to hit the actual keys for each letter. There is a configuration module which can be reached by pressing a "secret" key from the menu. It allows parents or teachers to select the vocabulary units used. There are 22 units on the disk; they begin with simple two and three letter words and get more complex, up to a third or fourth grade level.

In terms of simplicity, three of these four games can be used by the age groups for which they were intended. BOP-A-BET would also qualify except for those questions at the start which set up the game. However, you also have to ask yourself if your children (or students) can be entrusted with the only copy of a $30 to $40 disk.

Of the four, only MICRO MOTHER GOOSE is copyable. The good people at Software Productions even provide a label for your extra copy, which impressed me more than the posters and stickers that also came with it. A back-up copy of JUGGLES' RAINBOW is avaialble by mail for $12. This is much less convenient, but reasonable compared to those that are copy-protected and offer no backup at all! That hardly seems appropriate for software aimed at children.

All of these games seem immune to inaccurate key-pressing, although three of them have done nothing about the *RESET* key. In JUGGLES' RAINBOW, The *RESET* key restarts the current module, in the other three it re-boots the disk. This may not be much of a problem with late-model Apples, since they can be set up so that *CTRL* and *RESET* must be pushed at the same time, but owners of earlier Apples will have to give special training or physically protect the *RESET* key.

Of this month's four games, SPELLING BEE GAMES is the only one that the play-test group asks for now that testing is finished. Of course, this is due in part to their average age level, which is too old to be enthralled by nursery rhymes, but it is also a credit to the graphics since the kids ask for it (sometimes) instead of any of the arcade games we have. It is an excellent example of the motivational value of games because it is similar to, but much more popular than, Edu-Ware's SPELLING BEE AND READING PRIMER which doesn't use the game format.

The following abbreviations are used in the SYSTEM requirements: P=paddles, J=joystick, 3.3.=DOS 3.3 Whenever an Apple II+ is specified, an Apple II with Applesoft in ROM may be used. ■

MICROCOMPUTER MATHEMAGIC

Its time again for another issue of Computer Gaming World and Microcomputer Mathemagic. First of all, did you find a winning strategy for the game of FIFTY? For those of you tuning in for the first time (where have you been?), this game is played by two players who alternate turns in picking a number. In each case, the players choose from *1, 2, 3, 4, 5, 6* and a running tally is kept. First player to make the tally hit *50* wins.

In the last issue of CGW I gave one computer listing of a program which allows one to play against either a human or computer opponent. Recall that the computer opponent plays first and the program prompts for whether you wish it to play somewhat randomly or completely logically. (In the latter case, the computer is unbeatable, as you will see momentarily from a discussion of strategy).

If you played enough, you should have discovered that whoever goes first has a natural advantage in the game, but this is not obvious at first. In fact, when people first play, they usually pick numbers randomly for the first few turns. When the tally hits the thirties, the action slows down as the players begin to think: "What should I pick now?".

This leads the player to examining his optimum situations. When the tally is getting close to around *40*, you would like to have the total be *43* (which is *7* less than *50*, please note) after your turn. Why *43*, you ask? Well, the opponent has to pick at least *1* and at most *6*. If he picks *1*, the total becomes *44* and you can pick *6* on your next turn to win. On the other hand, the most he can pick is *6*, for a total of *49* after his turn, so he can't win. You can probably see now that no matter what he picks, you can then win.

Okay, so what about the previous turn? Well, by the same kind of reasoning, you would like the tally to be *36*, which is *7* less than *43*. Why? So then no matter what your opponent picks, you can make the total after that turn become *43*. Specifically, if he picks x, then you pick *7-x*. (If he picks *1*, you pick *6*; if he picks *2*, then you pick *5*, etc.)

If you trace this argument backwards, subtracting more and more multiples of *7*, you will find this to be the unique winning strategy.

Whoever goes first can always win by first picking *1*, and thereafter, whenever your opponent picks *x*, you pick *7-x* on the immediately following turn. This insures that at the end of your turns the running totals are *1*, then *8*, then *15*, then *22*, then *29, 36, 43* and finally, *50*.

TABLE #1

PLAYER #1	PLAYER #2	TOTAL
1	3	4
4	1	9
6	5	20
2	6	28
1	3	32
4	1	37
6	5	48
2		50

TYPICAL GAME IN WHICH COMPUTER (#1) WINS BY THE STRATEGY (TRS-80 VERSION)

I still invite readers to consider the questions raised last issue. For instance, what happens if you alter the game to include fewer choices, such as only being able to choose 2,3,4,5 each time; or playing for more points; or making the choice of numbers vary each turn. (You could let players choose *1* or *2* only second turn; *1, 2, 3*, or *4* on their third on their turn, and so on). The possibilities are quite endless, and I would be glad to hear from readers about interesting variations.

One other thing that I would like to see are superior programs. These might be programs which have better error catching routines, superior displays, etc. In fact, I wonder how many readers noticed my goof in *Microcomputer Mathemagic column* #1 (Vol. 2, #6) in which both program listings have prompts "Press any key to continue" instead of what I should have had, "Press ENTER to continue". (I was confusing *INKEY$* with *INPUT* at the time, evidently).

In a similar vein, surely some reader can provide a nicer display than the one I gave for FIFTY last issue. The problem is to make a program applicable to and compatible with most major brands of computers. The original program used the "*print @*" command for the *TRS-80* to obtain a nice display. Unfortunately, this command is not supported by other computers (although Apples and some others have comparable commands, I have been told), so I had to provide what I could. Okay, enough about style for now...Let's look at something new!

THE McDONALD'S PERMUTED CHANGE PROBLEM

Last issue I mentioned that I would like to provide something of a programming challenge, and this is it. First, the problem itself and its history. Approximately seven years ago, while still living in New York City, I went into a McDonald's restaurant and noticed the following interesting incident. I ordered a meal that cost $1.85. I handed the counter person a ten dollar bill, and noticed that my change, $8.15, had the same exact digits as the price. This led me to the question: Are there other prices (other than $1.85 or $8.15) whose change from $10.00 contains the exact same digits as the price itself?

My challenge to you is to write a BASIC program to find all such prices. Send these to me and I will publish the best ones a few issues down the road.

Next issue I will have some new goodies for you. In the meantime, send all your comments, questions, suggestions, and so on to me directly:

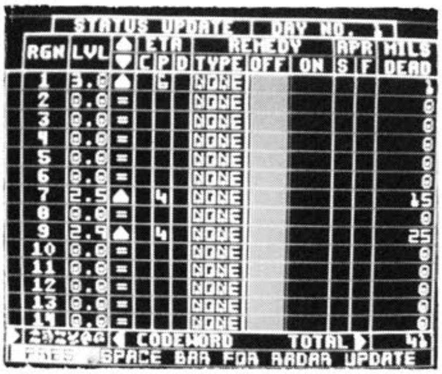
Dr. Michael W. Ecker
COMPUTER GAMING WORLD
Luzerne 8
Viewmont Village
Scranton, PA. 18508

For personal replies, which I will be pleased to make, it would help if you would enclose a self-addressed stamped envelope.

Dr. Michael W. Ecker is Assistant Professor of Mathematics at the Pennsylvania State University, the Worthington Scranton Campus, in the Scranton, PA. area. His ambition is to be able to say that he is Associate Professor of Mathematics at the Pennsylvania State University in the Scranton, PA. area.

EPIDEMIC: "An Apple (or PC) a day. . ."

Valerie Trott



BASIC INFORMATION

NAME:	**Epidemic**
TYPE:	**Strategy**
SYSTEM:	**Apple, IBM-PC**
FORMAT:	**Disk**
# PLAYERS:	**1**
PRICE:	**$34.95**
PUBLISHER:	**Strategic Simulations Mountain View, CA**

UNEDCOC (United Nations Emergency Disease Control Center) Mt Olympus, Antarctica

DAY 1

Meteorites impacted last night in the United States, Scandinavia, and India, triggering raging epidemics of a strange alien disease in each region.

Disease rate in the US is the lowest of the three, at 2.4 on the 1 to 5 scale, with 5 indicating Pneumonic Plague level. We've hit Scandinavia and India with Gamma Globulin treatments.

DAY 2

Over 88 Million dead worldwide. Epidemic in the US now 2.7 and rising. Scandinavia Gamma Globulin effectiveness is below average, deathrate stable. Indian epidemic is at stasis, and so will not spread or escalate—a good buffer zone.

Today we instituted a 5 day "Clean Suit" policy in the US. Effects should be felt immediately to some effect and strongly within 2 to 3 days.

DAY 3

US clean suits totally ineffective!! The virus is too small and goes right thru the filter units. . .worst of all, the US HAS infected Canada!

In Scandinavia, the Gamma Globulin treatments are having only miniscule effect. . .and we can't recall the mobile teams in less than two more days!! They're dying like flies!! ETA of the Pheumonic Level in THREE DAYS!! The only bright point is that India has been cured!

DAY 6

This epidemic is getting out of hand! US entered Pneumonic Phase, 145 million dead, and the disease has spread to Central America. Western Europe and China both getting worse, and the Soviet Delegate is calling for Nuclear Sterilization of North America.

DAY 7

Greenland, Eastern Europe, and the Soviet Union now infected!! Mass panic spreading worldwide as total deaths approach one bilion. Anti-Pneumonic Remedy #4 failed in US, total destruction of all sentient life in that region expected in three days!!

DAY 9

We haven't got a chance. . .the epidemic is too widespread. . .we've tried everything. . .too late. . .feel feverish. . .can't think clearly . . .why are there green and purple spots on my hands?. . . . can anyone out there hear me???

Thus ended my first attempt at Level Four, the easiest level of SSI'S New introductory strategy game *Epidemic.* The world is broken down into fourteen geographical regions which are menaced by a swarm of meteorites carrying the deadly alien microbes which, on its last swing thru this part of space, wipped out the dinosaurs!!

Each turn you'll view a world status update, telling you how many have died in each area, how long before the regional epidemic reaches Pnemonic Phase (becomes airborne and even more deadly), and whether the infection level is rising or falling.

This update helps you formulate your overall strategy, after which you'll get a radar update (showing locations of approaching meteorites) and finally a world map update with a menu allowing you to obtain detailed regional information, to initiate attempted cures and/or fire missiles at incoming meteorites, and even to nuke areas that are too far gone!

Unfortunately, you have a very limited number of actions per turn. At levels 4 and 3 (the two easiest) you have only two options per turn, while at level 2 and 1 (the hardest) you have three options per turn. This often leads to conflicts between whether to treat an already infected area or launch a missile at an incoming 'target' to try and prevent additional regional infections.

Your primary strategy should be to create stasis zones (infection level between 1.0 and 2.0) which will prevent the spread of the epidemic to other regions. If a region slips past stasis and is fully cured, you may regret it very quickly when that region becomes reinfected and you have to start all over again.

The best cure you have is Interferon. Unfortunately, you only have one day's supply of Interferon per epidemic per region, and you just can't be everywhere at once. All remedies except Interferon last for more than one day — two to five days is the range — and each has its own effectiveness curve.

The catch is that any given remedy can be more or less effective than anticipated, and once you start something, it has to run its course before you can try another remedy. For example, in the game described above, when the "clean suits" in the US were

Continued on p.46

COSMIC BALANCE (Cont.)

For ship to ship combat between dreadnoughts, the following generalities should be useful in designing new ships. A high technology ship is usually stronger than more numerous lower technology ships. Crew effeciency of one is adequate for high technology ships. For a dreadnought with short range weapons, about 15 to 20 percent of the total space should be armor, and don't skimp on shields. A ship with mostly short range weapons needs lots of protection in order to get in close, hit hard, and get back out safely again. Siege phasers are the most economical short range weapon, but you should also have about one photon torpedo to drain shields, and one plasma (if you can afford it) to destroy armor. Give your ship extra engines as you will need the extra power to repair shields and to change course when you take damage. You should have about five to ten marine detachments on board as insurance against transporter ships like *Ship B*. You don't need many because one surviving crew or marine detachment can operate the ship. You should have about 12 to 16 belts as insurance against ships like *Ship A*. All ships must have a range of at least one if you plan to use them in the new strategic game.

A final word of caution: if the situation looks desperate, don't be ashamed to run away before the dastardly Klingons breach the shields. Discretion really is the better part of valor. Even the immortal John Paul Jones once said, "Give me a *fast* ship, for I intend to sail in harm's way!" Good luck and good hunting!

SHIP DATA

SHIP NAME D   TECH LEVEL 6

EFFICIENCY 1   MAX SPEED 24   POWER 112
MAX ACCEL 12   MASS 16

RANGE 1   CARGO 0   FTBAY 0   HULL 30
RACKS 4   LTSKR 16   HSKR 0
ENGIN 14   DRIVE 12   TRANS 0   TRAC 0
ARMOR 48   MARIN 10   BELTS 16

	WEAPON	FIRE ARC	SHIELD
1	Photon Torp	12345678	SHIELD 1 27
2	Siege Phaser	12345678	SHIELD 2 30
3	"	12345678	SHIELD 3 26
4	"	12345678	SHIELD 4 27
5	"	12345678	SHIELD 5 27
6	"	12345678	SHIELD 6 26
7	"	12345678	SHIELD 7 26
8	"	12345678	SHIELD 8 27
9	"	12345678	
10	"	12345678	
11		12345678	
12		12345678	

SHIP DATA

SHIP NAME E   TECH LEVEL 6

EFFICIENCY 1   MAX SPEED 2   POWER 96
MAX ACCEL 1   MASS 16

RANGE 1   CARGO 0   FTBAY 0   HULL 30
RACKS 0   LTSKR 0   HSKR 0
ENGIN 12   DRIVE 1   TRANS 0   TRAC 0
ARMOR 48   MARIN 10   BELTS 16

	WEAPON	FIRE ARC	SHIELD
1	Photon Torp	12345678	SHIELD 1 30
2	Siege Phaser	12345678	SHIELD 2 30
3	"	12345678	SHIELD 3 30
4	"	12345678	SHIELD 4 30
5	"	12345678	SHIELD 5 30
6	"	12345678	SHIELD 6 30
7	"	12345678	SHIELD 7 30
8	"	12345678	SHIELD 8 30
9	"	12345678	
10	"	12345678	
11		12345678	
12		12345678	

INDUSTRY NEWS (Cont.)

Blue Chip Software (see the review of *Millionaire* in this issue) has announced a new commodity market simulation—**TYCOON**. TYCOON will allow players to engage in complex trading of futures contracts in gold, soybeans, Treasury bills, foreign currency, pork bellies and other commodities. It will be released first for the IBM PC and followed by versions for the Apple, CPM and CPM 86. The simulation will retail at $79.95 for the Apple version and $99.95 for the other versions.

PDI (Program Design, Inc.) has announced that they have moved their headquarters. The new address is: 95 East Putnam Ave., Greenwich, CT06830.

There are four new releases from Avant-Garde Creations for the **IBM PC**: AIR TRAFFIC CONTROLLER, TERRAN JEOPARDY, FEDERATION, and LAZER MAZE. All four games retail for $29.95 and all but the first require the Color Graphics Adapter.

Coming soon from Sirius Software on **ATARI** disk is the hi-res adventure game THE BLADE OF BLACKPOOLE ($39.95).

Strategic Simulations has moved. Their new address is 883 Stierlin Rd. Bld. A-200, Mountain View, CA 94043.

SSI has released the long awaited revised version of **COMPUTER AMBUSH.** They have also released their Battle of Britain game, **FIGHTER COMMAND.** Both run on the Apple II. SSI will have a number of April releases. **RAPID DEPLOYMENT FORCE—1985** which is the second release in the *"When Superpowers Collide"* series (Apple); **NORTH ATLANTIC—1986** by Gary Grigsby (Apple); **KNIGHTS OF THE DESERT** which covers the North African Campaign in WWII. KOTD will run on the Apple, TRS-80, and Atari (joystick control in the Atari version). Other April releases will be **COSMIC BALANCE 2: THE STRATEGIC GAME** for the Apple and Atari; **GALACTIC GLADIATORS** for the IBM-PC and the Atari.

Other projects being worked on at SSI include a WWII European Theatre game which will cover the war from England to Moscow. Land, sea, and air units will play a role in this "monster game". Gary Grigsby is working on an Eastern Front WWII game which will run on the Apple and Atari. Using the Guadalcanal game system, the game will involve strategic and tactical movement modes in a week-per-turn format.

Bruce Ketchledge (Dneiper River Line—Avalon Hill) is working on a Geo-political game for SSI. It will involve economic, political, and military elements and will run on the Apple and perhaps the Commodore 64. Look for it this summer.

Several SSI games are being translated to the **Commodore 64** including **BATTLE FOR NORMANDY** and **COMPUTER BASEBALL. There is still no projected date for the Atari 400/800** version of COMPUTER BASEBALL (problems with getting the out-of-house programmer to deliver).

MILLIONAIRE (Cont.)

SUMMARY

MILLIONAIRE is a stimulating experience for anyone who enjoys the strategic decisions inherent in high finance. Its system definition, based on careful research and continuous probability, makes the game both realistic and fascinating. The levels of expertise and their varied options, along with the potential for different market environments, give the game an assured longevity in the strategy gamer's library.

ATARI ARENA (Cont.)

Garden, for instance, takes over a minute to begin, and must be rebooted to start with a new garden. None of the games have a pause command. None of them record a high score.

The standards for cartridge games have been established by games like *Star Raiders* and *Missile Command*. Broderbund is bringing out at least *Choplifter* and *Serpentine* in cartridge form. Synapse plans to release all their games in cartridge, with *Shamus* already available. Against competition such as that, any company producing cartridge software is going to have to come up with solid, professional products if they want to compete.

Have you heard? Atari is bringing out an expanded *Eastern Front* on a cartridge. The year is going to get better.

Micro-Reviews

BASIC INFORMATION

NAME:	Championship Blackjack
TYPE:	Educational & Entertaining
SYSTEM:	IBM-PC
FORMAT:	Disk
# PLAYERS:	5-Card 6-Micro
PUBLISHER:	PC Software San Diego, CA

Blackjack lovers this is it! With Championship Blackjack from *PC Software* you can play under realistic conditions using the rules from all the gambling funspots. Before going into the details, a rundown of the features and playing options available with Championship Blackjack should be enough to convince you, as it did me, that it is an outstanding blackjack software package which is even better than the hard-wired setups you put your quarters into at the casino while you're waiting in line to see a dinner show.

The game options include:

- All allowable plays are supported, including *stand, hit, double, split, resplit, insurance,* and *surrender;*
- *Single* or *multiple* decks;
- *Tournament* and *double exposure* play;
- Choice of casino rules, including *Vegas Strip, Vegas Downtown, Atlantic City, Tahoe,* and *Reno;*
- Ability to *set your own rules;*
- *Julian Braun's Basic* and *Point-Count System* strategies.

The game features include:

- Monochrome and color displays, with sound;
- Menu-driven screens;
- Player statistics;
- Simulations.

The game is so complete that about all you can't do is order cocktails and look at the dealer's eyes when he checks for blackjack.

The game will accommodate up to six players and any of these can be played by the computer itself. Players automatically have their moves checked against the basic strategy developed by Julian Braun and, additionally, player's moves can also be checked against Braun's Point-Count system. Poor decisions based upon these systems, are then indicated by appropriate messages.

The general flow of the game is as expected. Cards are shuffled, bets are placed, hands are dealt, and players make their decisions. What makes this game an excellent instructional tool, is that at the upper left of the screen, the program displays the running count, the true count (since you can't actually see the shoe to see how many decks are left), the recommended move using basic strategy, and the recommended move using the Point-Count system. And, if you still can't make up your mind, there is a help screen available to show you all the options.

I played the game on an IBM monochrome display and found the graphics to be excellent. The screen layout is similar to that green felt on a blackjack table. Cards are dealt face-up, down cards down, and hits and splits are neatly overlapped. Player's names, their current bankroll, and current bets are always displayed at their respective places on the table. The statistics screen is very helpful and lets you know at any time how everyone is faring, this is most important in tournament play and when running simulations.

The only recommendation I have for the developers of the game is an added feature that will allow practice drills on such things as soft-standing rules, soft-hitting rules, pair splitting decisions, double down decisions, and surrender decisions.

If you are a beginning blackjack player, a hearty welcome to the game. You won't find a more helpful and enjoyable way of learning than Championship Blackjack. If you're an expert, counter, tournament player, or professional, you will find Championship Blackjack to be an outstanding computer game.

Good luck, and see you at the tables!

Jim Zegers

BASIC INFORMATION

NAME:	Microbe
TYPE:	Action Adventure
SYSTEM:	Apple II, Dos 3.3, 48k
FORMAT:	Disk
# PLAYERS:	1 to 10
AUTHOR:	Robert Clardy
PRICE:	$44.95
PUBLISHER:	Synergistic Software Renton, WA

Robert Clardy and Synergistic Software have done it again! As much of a breakthrough as ODYSSEY was, Clardy has outdone himself with MICROBE. It's like nothing I've ever played. Read on and find out why.

Do you remember the movie "Fantastic Voyage"? The one where a submarine was shrunk down to microscopic size and injected into the vein of a critically ill patient? The tiny sub navigated the venous system, fended off the attacking antibodies and white cells, and went on to clear the blood clot in the brain.

MICROBE is based on a similar scenario. Any of a number of things can be wrong with the patient (but it's always something in the brain). You and your crew, starting in a leg vein, must make your way to the brain by passing through various organs of the body. At a minimum, you must pass through the heart (twice), the lungs, the brain, and all the connecting veins and arteries. On your journey you may hook up to the kidney to coat your ship with antibody repellant, the liver to take on more fuel, and the lung to replenish your air. You will be attacked by germs, viruses, and the body's own defense mechanisms.

If you play alone, you must take on the roles of all the sub's personnel: captain, navigator, pilot, technician, and physician. And that will keep you VERY busy. I like playing with three or four others, with everyone taking an appropriate role. The captain runs the keyboard and gives the orders. The navigator keeps track of where in the body the sub is. The pilot uses a game paddle to steer the sub while looking at a display of the sub's position; he must

avoid oncoming traffic (red and white cells). The technician takes care of repairs, keeps track of inventory, and fires the laser, when appropriate, while viewing a stunning display out the front window of the sub. The physician monitors the patient and prescribes drugs and other treatment.

All of the above is accomplished in real time while frantically consulting manuals, reading the radar scope, taking blood tests, etc. And it's fun! But also, it's educational. Anyone who plays this game can't help but learn some anatomy, physiology, and pharmacology. I have been exposed to plenty of programs that claimed to be educational games, but this is the ONLY one that succeeds.

MICROBE is designed to work with VOTRAX, ECHO, and MOCKINGBOARD speech products. My version runs with the Mockingboard, which adds special sound effects and a talking computer. I like these features in MICROBE, but I'd like the game even without them.

I thoroughly recommend MICROBE to gamers of every stripe for the enjoyment it provides, and I recommend it to everyone else for its educational content.

Tom Cleaver



BASIC INFORMATION

NAME:	**Conquest (formerly Call to Arms)**
TYPE:	**Strategy/Wargame**
SYSTEM:	**IBM PC 64K, with color graphics card**
FORMAT:	**Disk (for one single-sided disk drive)**
# PLAYERS:	**2-4 computer and/or human**
AUTHOR:	**Mike Falkner**

Risk fans rejoice! Your favorite board game is now available for use against one, two or even three computer opponents. You no longer have to scrounge around at odd hours of the night hoping someone will take your challenge. With the aid of your PC you can choose to fight in Europe of 1942 or Scotland 1750.

Like the popular board game, CONQUEST is a strategy war game. The object is to conquer territories adjacent to countries which you hold. CONQUEST has several enhanced features which are not in *Risk*. Fast moving computer opponents provide only breathing time before it's your turn once again. A fine text window displays all the necessary information as battles ensue. The graphics employed outline and color-in conquered territories quickly.

At the beginning of a turn, you are allotted a certain number of armies. You can deploy them wherever you see fit. Troups not deployed are stored for your next turn. Next, you can either attack or finish your turn. Each country is displayed with the owner's color and the total amount of occupying armies. After attacking and defeating the enemy, you decide how many troups to leave and how many to move into your new territory. After this decision, the computer fills in the newly conquered land with your color. Attacking continues until you decide to stop. For the last move of your turn, you can pull troups away from the front lines to be stored along with your allotted armies for the next turn. In this way, you can muster strength for counter attacking or even defending your front lines.

To start the game, you can choose the number of armies to be placed in each country. Three is suggested, although the experienced player can decide to start with up to nine. If you like to show off your computer, you can have two, three or four computer opponents square off at each other. Any combination of human and/or computer opponents up to four can play. Ownership of countries at the start of each game can be the same, or you can opt to have the countries randomly distributed. When time is short and the war is still on, a "save" feature permits you to continue at a later time.

One major problem occurred when I was loading in the European map. After being prompted by the computer, the map of Europe was drawn in. Just before the countries were colored in, I received an error message stating "out of memory 2080". From that point, it was impossible to proceed. After contacting Sirius I finally was lead to the easy solution. It seems that because my machine has an asynchronous communications card, Basic will automatically allocate a communications buffer when it boots up. So to prevent this from happening, make sure you type in Basica/ c:0 instead of Basica (as the directions call for). This will cause Basic to start up with 0 buffers. With this problem solved, I had no trouble loading in the European game.

All in all, CONQUEST is an enhanced version of a popular board game. The several options of game set-up provides variety that makes the game life last after countless use. Graphics and text window display are done well. The documentation is adequate, although the directions should address errors that could occur with loading more adequately. The gamer who enjoys spending hours and hours on one detailed battle may not appreciate the ease and uncomplicated nature of battle. However, most gamers will enjoy the swiftness of execution and the ebb and flow of battle. The graphics used in drawing both Europe and Scotland are clear and well depicted, and the text display-box provides important information such as players turn, countries doing battle and odds and outcome of each battle. With the addition of some sound routines, this game could become a classic. As it stands, CONQUEST is a very enjoyable game, simple to learn and challenging enough for the serious computer gamer.

Mark Lacine



NAME:	**Super Taxman 2**
TYPE:	**Maze-Chase**
SYSTEM:	**Apple II 48K**
FORMAT:	**Disk**
# PLAYERS:	**1-5**
AUTHOR:	**Brian Fritzgerald**
PRICE:	**$25.00**
PUBLISHER:	**H.A.L. Labs Riverside, CA**

Taxman move over and make way for the newest in eat-the-dots games, Super Taxman 2.

ST2 is described as a new improved version of the original TAXMAN. Actually it's a totally different version of the classic maze games.

In this one, you're a little pie-shaped tax-collector who has the undesired job of collecting all the money dots while trying to save his hide from angry citizens. Sounds pretty easy right? Well not so fast! First there are four all-new mazes, instead of the traditional one maze game. And as if that wasn't enough, in order to earn an extra man you have to complete an ultra-fast challenge stage (every three mazes). Gratuitously Brian Fitzgerald, the program author, provided us with six energy dots instead of the usual four.

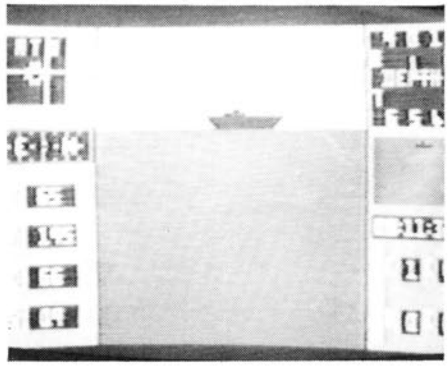
Other features include a level-select option, that allows the player to choose any of the ninty-nine levels at which to start, and a pause function. For the young at heart, Mr. Fritzgerald has given us five new cartoons and some bouncy music. The cartoons can be viewed before the game and at various levels. The music, on the other hand, pops up throughout the game. Finally, as in Taxman, Super Taxman gives the black and white/color option.

The graphics are very well done, and the animation is virtually flicker-free. Sound is an exact carbon of Taxman.

Instructions are included with the game, they're short but adequate. Controls are user-definable keyboard. No Apple joysticks here but for you true game players comes the Gismo an inexpensive ($15, $10 with the coupon included with Super Taxman) device which allows the use of an Atari-type-joystick with ST2.

The challenge of Super Taxman is to use the energy dots wisely. It's not always easy to do when you have pesty citizens on your tail. One strategy I found is to concentrate on finishing the maze rather than trying to eat all the citizens when they turn blue. Despite the fact that maze-chase games have been overused, ST2 is a nice little game.

Anthony Melendez



NAME:	**Submarine Commander**
TYPE:	**Strategy/Action**
SYSTEM:	**Atari 16K Cartridge**
# PLAYERS:	**1**
PRICE:	**$39.95**
PUBLISHER:	**Thorn EMI Video**

It's World War II and you are in command of a diesel submarine somewhere in the Mediterranean. Your mission: to destroy all enemy merchant shipping in these waters. You've tracked this convoy for ten minutes and you're ready to strike. Up periscope. The convoy's lead ship is a destroyer. Fire one! Fire two! You watch as both torpedoes strike the ship and it begins to sink. Turning your attention to the second ship, a tanker, you fire two torpedoes. Two hits! Suddenly your sub shudders. You're under fire from the second destroyer! Dive! Dive! Reduce speed, stop all engines. You wait, not daring to breathe. Finally, the sound you dreaded most begins — Depth Charges!!

This is the action in the Thorn EMI Video game cartridge, Submarine Commander. As Commander of a WWII Submarine, the player must sink all convoys in the area. The player has a limited supply of fuel, torpedoes, air, and charge in the batteries. To recharge batteries, and replenish air supply, the sub must surface. Surface speed is faster than underwater speed, but uses more fuel. Scoring is based on the amount of fuel left, torpedoes remaining, and game time.

The game makes excellent use of the Atari's graphic and sound capabilities. It has three screens. The first screen is a detailed map of the Mediterranean, showing the submarine's position, positions of all convoys and land masses in the area. Each screen has indicators showing compass heading of the sub, amount of fuel and torpedoes left, the submarine's speed, damage indicators, amount of air left, battery charge, position of the submarine relative to the sea bottom, and a game clock.

The second screen is the Sonar Scope. It looks, sounds, and works like a real sonar scope. Two indicators are added to this screen; tonnage sunk and Hydrophone Chart. The Hydrophone shows the player which direction to steer to intercept the convoy.

The third screen is the most important. This is the periscope view. This is where all the action takes place. This screen shows clouds, water, and the ships. As the ships enter the view, they're black shapes. The closer they get the more detailed they become. When torpedoes are fired they appear on screen and move toward the target. A 3D effect is achieved with your torpedoes receding in the distance. When a torpedo strikes a ship, the water billows up in the explosion with excellent sound effects as the ship slowly begins to sink. Ships can also fire back as evidenced by flashes and sounds of their guns. If the sub takes a hit, the whole screen shakes.

There is one minor problem in the game. Moving the submarine, especially in the heat of battle is difficult to grasp. The sub doesn't turn as fast as the player wants. This slows down the action, but once the player gets used to it, it isn't that noticable.

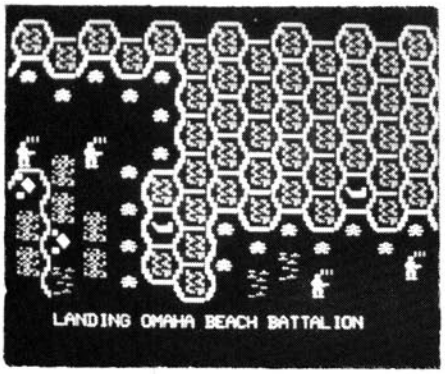
The game is in real time using the joystick and keyboard. There are nine levels of play with ships on levels seven thru nine possibly requiring two hits to sink. There are four types of ships: destroyers, tankers, cargo, and PT boats.

The game ends when the sub runs out of fuel, air, sinks, or the battery charge is depleted; while scoring is based on the length of the game the tonnage sunk, and the amount of fuel used. The user manual is very good, covering all aspects of the game. This game will appeal to those who like arcade graphics and sounds, but enjoy a sense of wargaming.

Hosea Battles

ON VACATION

Silicon Cerebrum and Route 80 are on vacation. Look for them again next issue.



NAME:	**Battle for Normandy**
TYPE:	**Wargame**
SYSTEM:	**Apple, Atari 400/800, TRS-80**
FORMAT:	**Disk or Tape**
# PLAYERS:	**1 or 2**
PRICE:	**$39.95**
PUBLISHER:	**Strategic Simulations Mountain View, CA**

SSI's Battle for Normandy (BFN), continues the design and development tradition of *Tigers In The Snow* with additional refinements. Covering the initial Normandy landing through the build-up prior to Operation Cobra, the game takes 14 turns (June 6 through June 30) in two day increments. Included are air and naval firepower capabilities, weather and logistical considerations. The game can be played with two players or solitaire with the computer acting as the "German" player.

The regimental and brigade-sized units cannot stack together, and once a move is made the player is committed to that move. A cycle of rotation through available units for movement continues *five times* in order to select the sequence of what units will move first. Unit capabilities are displayed during movement and combat, showing designation, combat strength, leadership and fatigue ratings, supply condition, rated effectiveness, terrain stacked on, and movement factors left during the current turn. When units move into an enemy unit's zone of control they stop, but are not obliged to attack (rigid zone-of-control). Moving into an enemy unit's zone of control consumes four movement points unless moving directly from one enemy zone of control to another, which consumes eight movement points.

Units must remain within two hexes of a depot unit or beachead hex to remain supplied. Units that are unsupplied receive deleterious effects to movement, combat, and fatigue ratings. General allocation of available Allied amphibious transport occurs once every turn (two days), and such allocation must choose between differing percentages of amphibious (unit transport), combat supply, general supply, and fuel. Beachead units are quite vulnerable to attack, and their loss will result in a shut-down of that beachead with a diminution of general amphibious transport capabilities.

The amphibious assaults in the first turn will require one or two divisions to be landed for each beach defense to be cleared. Beachead units automatically land first, followed by airborne landings and ground units during the first turn. As the invasion and build-up continues, depot units can extend the line of supply two hexes from beacheads.

The menu presents a one or two-player option, along with options for variable Allied and German strengths in air and naval firepower, transport capabilities, reinforcement times, leadership and combat ratings, and the ability of the Germans to move the first day. An average move takes about ten to fifteen minutes, with about two to three minutes used by the computer in the solitaire version of play for resolution of German movement and combat. The sequence of play is traditional — the Allies move and then attack then Germans move and attack, and finally the end of turn results are displayed (with a save game option).

As a historical simulation, BFN is a great improvement over *Tigers in the Snow.* The Normandy campaign is sufficiently well documented to provide correct orders of battle for the level of units presented (regiments, brigades, and divisions). Once again, as in *Tigers,* regiments and brigades cannot stack together or move through the same hex at the same time. This last element, in BFN is a contradiction of well-established unit frontages for the period. Nevertheless, this game is a generally good representation of the Normandy landings and build-up.

The time used in the computer's moves is a dramatic improvement upon earlier SSI titles, having a minimum of "dead time" as the computer moves units and determines combat. No option is presented, unfortunately, for checking at the end of a movement phase to double-check with the player for acceptance of that turn's movement. Overall, Battle for Normandy is an enjoyable game that will allow multiple playings and repeated playings with equal satisfaction.

NAME:	**Space Strike**
TYPE:	**Arcade**
SYSTEM:	**IBM PC, 64K, color graphics adapter**
FORMAT:	**Disk**
# PLAYERS:	**1**
AUTHOR:	**Michael Abrash**
PRICE:	**$29.95**
PUBLISHER:	**Datamost, Inc. Chatsworth, CA**

SPACE STRIKE is a *Space Invaders* type game for the IBM-PC. As one would expect, the object is to stop the aliens who march across the screen from reaching the bottom or from destroying your space tank (gun). Points are given for hitting the alien saucers which travel quickly across the screen from time to time. High scores are saved to disk.

The strong points of the game include the option of using either keyboard or joysticks. Using the keyboard is quite cumbersome and not suggested if you want to achieve any reasonable score. This is not the fault of the programmer, but is generally the rule for any arcade game where agility is needed. The author, however, has made it possible for you to change the playing keys so that you can select the ones that are the most convenient. You also have the option to turn the sound off and to freeze the game in progress.

SPACE STRIKE is a simple but effective game of *Space Invaders.* Graphic quality for the aliens, space creatures and missiles is fair. The graphics displayed when an alien ship is hit is first rate. The accompanying sounds add to the effect. When hit, the alien spacecraft fragments into many discernable pieces which gently float down the screen. The destruction of your space tank is also finely illustrated. Once hit, your craft fragments into a mass of tiny pieces as it is strewn about the screen.

In conclusion, SPACE STRIKE is a new name for an old game. This doesn't change the fact that it is a well programmed, error-free game. It is recommended to those who are looking for a good quality Invaders program.

Mark Lacine

As you travel through the time periods you will visit villages, cities, castles, dungeons, and towers where you can purchase food, spells, transportation, armour, and weapons. You can even stop in at the local tavern to have a drink and hear the local gossip or bribe the barkeep for a hint.

You also have an entire solar system to explore with each planet having its own features and towns to visit. You might even discover the whereabouts of the mysterious Planet X.

SUGGESTIONS

Your first quest upon entering ULTIMA II is to safely make your way to the nearest settlement to arm yourself against the nastier inhabitants that roam the world. You also must not forget to make sure you have enough food to last for awhile. Otherwise you can die if you're too far from a village and can't get back in time for food. I found this out the hard way.

I spent a lot of time the first few tries making new player disks until I was able to get close to the water and board a frigate. (You need "something" in your possession to be able to board the frigate but it is obtained by doing battle with the inhabitants and should not take long). It is difficult staying alive until a frigate appears. However, once on the frigate you patrol the shores of the continents and attack the Orcs, Devils, and Balrons with the ships guns. You will find that you lose little or no hit points during the battle and it doesn't take long to build up your inventory of gold, possessions, and experience points. The best time period for this is the Pangea.

When you initially travel through the time doors you end up being stranded on one continent until a frigate ventures close. This sometimes took a while and I was determined to find a solution to this lack of transportation. Once you are on a frigate you can get other frigates. Instead of firing on hostile frigates, head for land and dock your frigate. Then board the hostile frigate. It will become friendly. You now have two frigates. In this manner any number of frigates can be docked by the different time doors. This can be very helpful to you as you travel about.

When you press the "Z" key you are shown the status of your characters attributes, experience points, and inventory. You have to keep a careful watch on five items, but four of these items deserve special attention. They are attributes, torches, keys, and tools. You are allowed to have 99 of each but go just one point above and the total resets to zero. It's not healthy to have any one of your attributes go to zero, let alone having to lose keys that are very hard to come across. Experience points were very important in ULTIMA I and you strive to increase them but in Ultima II they are not important and if you get above 9999 the counter will just reset to zero.

There are dungeons and towers which are similar in detail to other popular games but are not really necessary areas to explore to win the game. However, I did enjoy mapping the levels and there were definitely new twists added that I have not experienced in other dungeon-type games. It is very expensive to reach the highest floor in a tower or the lowest level in a dungeon.

Remember to visit all time zones and planets. Transact with everyone you can, it is very easy to let the most important contact slip through your fingers if you are not careful.

There is one weapon you need before you can effectively attack Minax and that is the magical quicksword ENILNO. The instructions say you cannot buy it, you must earn it. I had to buy it.

You use a lot of money in ULTIMA II trying to get information so it is wise to know where and how to get restocked quickly.

My copy of Ultima II was one of the first off the production line. When you first build your character you are allowed to spread 90 points between the five attributes. If you didn't give at least 30 points to strength it turned out you were not able to wear either the reflector or power armor. Without the reflector suit on you could not venture out into space. I was lucky and gave my character 30 points initially and never saw that problem. Although I never was able to wear the power suit which would have made me less vulnerable to hits. This has been corrected by Sierra On-line.

The game has a nice feature in that it automatically saves your character at certain points in the game. Even this did not help me in one instance. I had ventured out into space with very little food and was unable to get close to a village to buy food without dying. At this point in the game my character had been very strong and I was able to travel throughout the time periods without too much trouble because of the possessions and vehicles I had accumulated. I hated to even think that I would have to start over. I found a partial solution for anybody who gets in this predicament. Start a new character on a new disk and build him up so he has about 5000 hit points and the same amount in gold. Somewhere in this new game remove your new disk and put your old disk into the drive. Press Q to save. The computer will save your new character on your old disk. You will then still have use of whatever frigates, planes, or shuttles that your previous character used. I do not know if this will work in all instances and I recommend it only as a last resort, it did save me a lot of time.

One thing you learn quickly while piloting a shuttle is that you only have one chance to land. If you do not land on grass you die, no exceptions. The shuttle will continue to circle every planet until you press a key so it is wise to allow it to initially circle every new planet once before you land so that you know what you are getting into.

When you first get into combat you start acquiring items that you have no idea what they are used for. You usually end up finding out the hard way so watch your cursor every chance you have during battle for hints.

One of the most difficult item(s) to find and obtain are the keys. Let me just say that the initial few are costly but there are ways to use these first few to build up more than you will need.

CONCLUSION

The world of ULTIMA II is vastly improved over ULTIMA I. The villages, castles, and towns are all unique; the oceans and lakes even have animated water. My only thought as I finished the game was that very little of this enormous work was really utilized as being required to complete the game. It was almost as if this was only a small intial quest to give you the lay of the land and that additional scenarios would be released, each one using more of the game until the "Ultimate" quest was finished. Therefore I was not surprised at the little ad that appeared at the bottom of my screen at the completion of this quest. It said that. . . ■

ZORK! (Cont.)

START, RESTORE, AND SAVE (with up to five different saves). For controlling the amount of detail given in room descriptions there's BRIEF, SUPERBRIEF, AND VERBOSE. And, for making a printed transcript of your adventure there's SCRIPT and UNSCRIPT to turn a printer control on and off.

Even the running problem of every adventurer — getting killed —is handled with finesse. Instead of forcing you to start over at square one (perhaps with a re-boot), Zork, in most cases, scatters your possessions and reincarnates you near where you began the adventure.

So that I don't lose my reviewer's license, or my credibility, I guess I should mention a few of Zork's shortcomings. The trouble is that for a game of its type Zork has no serious flaws. If Zork *does* have a flaw, it is that the empire is, perhaps, a bit too fanciful — it lacks an internally consistent theme. For example, Zork I contains, among other things, an Egyptian Tomb room, a troll room, a Flood Control Dam with electrical power, and the Gates of Hades. Don't get me wrong, these places are exciting to discover, explore, and relieve of their treasures; but what are they doing in the same world? Of course, not all adventurers would agree with me that "organic unity" is important, or even relevant.

There is one other feature of Zork that I almost considered a flaw, but am now not so sure. Unlike a well-made play, or a well-written short story, in which all pieces must move the plot forward or contribute to the whole, Zork has a few, but just a few, puzzles that either don't have solutions or that don't need to be solved to reach the adventure's conclusion successfully. I can't decide whether these puzzles are supposed to be red-herrings or cliff hangers.

Zork is currently available on several computers, which explains, in part, the existence of an organization called the Zork User's Group (Z.U.G.): an independent company licensed by Infocom. Z.U.G. provides (sells) such paraphenalia as clue booklets, guidemaps, a full color poster of Zork I (to commemorate your visit) and even souvenir buttons. Z.U.G. gives (and I repeat) a special caution, that their guidemaps reveal locations and items that an adventurer may want to discover for himself. With that in mind, I didn't look at my Zork I guidemap until I was confident I had fully mapped out everything. I must admit I took special delight in comparing the accuracy of my map (consisting of several sheets of yellowed paper, Scotch-taped together) with the official one (nicely drawn and printed, of course).

Zork is vast and intricate. I counted over 100 interconnecting rooms in Zork I alone. This means that map making is imperative. Examine everything. Remember that, especially in mazes, there are ten different directions (eight compass directions, plus up and down). Also, don't hesitate to re-explore old paths. Occasionally, new passages open up as you solve mysteries, or as events outside your control (like earthquakes) occur. Finally, even though Zork is a single-player adventure, don't go there alone if you can help it. It is definitely an adventure to be shared and enjoyed. ■

EPIDEMIC (Cont.)

completely ineffective, I still had to wait out the five full days of the attempted cure. Which meant five days of unhindered growth!

Once a region hits P-Phase (Pneumonic level) your options change from the eight standard cures to the four Anti-Pneumonic Remedies (APR's). Each of these has a different percent chance of success, but the effectiveness of the remedy is inversely related to its chance of working successfully. For example, APR 4 has only a 20% chance of actually working, but if it does, the disease level will be reduced by 80%. Conversely, APR 1 has an 80% chance of working, and if it does, the disease level will be reduced by 60%.

My feeling is that unless it is a last ditch effort, APR 1 is the way to go. Two successful applications of APR 1 will cure an area, while any non-functional APR will only waste your turn option and let the disease run merrily along its course.

The ultimate solution is to nuke a region. As might be expected, this will destroy all the microbes in the region. It also has the rather unpleasant side effect of destroying all other life in the region as well, but it will stop the spread of the disease. Be careful about nuking the US, USSR, and Europe, though, since these areas control the missiles which are your only chance to stop the incoming meteorites. If you lose your high-tech areas, the effectiveness of your missiles will plummet.

The only negative I found was that at level one, the tracking of eight individual radar targets (incoming meteorites) was slightly tedious. I don't have any suggestions as to how to streamline this, and the additional meteorites do increase difficulty, but I got tired of waiting out this phase at this level. Also, if we could somehow have been presented with a parameter variation option, that would have been nice. Perhaps we could vary the number of meteorites, increase or decrease the growth and spread of disease, or move our command post from region to region where it might be susceptible to the disease.

In conclusion, Epidemic is a good beginning level strategy game with excellent graphics. The game provides a real challenge to constantly better your score by curing the world as fast as you can. It is easy to learn and highly addictive. My brother, a pure arcader came over for Christmas dinner and played four full games of Epidemic before, during, and after the holiday feast. ■

R.I.D. #7 (Instructions on pg. 48)

GAMES

1. Wizardry (Sir-tech)
2. Knight of Diamonds (Sir-tech)
3. Guadalcanal Campaign (SSI)
4. Ultima II (On-Line)
5. Choplifter! (Broderbund)
6. Southern Command (SSI)
7. Cartels & Cutthroats (SSI)
8. Zork (All three) (Infocom)
9. Eastern front (APX)
10. David's Midnight Magic (Broderbund)
11. Millionaire (Blue Chip)
12. Epidemic (SSI)
13. Cosmic Balance (SSI)
14. Miner 2049er (Micro Fun)
15. GFS Sorceress (Avalon Hill)
16. Pinball Construction Set (Budge Co.)
17. Black Jack Strategy (Soft Images)
18. Flip Out (Sirius)
19. Dawn Patrol (TSR)
20. Dungeon (TSR)
21. Theseus & Minotaur (TSR)
22. Mask of the Sun (Ultrasoft)
23. Time Zone (On-Line)
24. Galactic Adventures (SSI)
25. Marauder (On-Line)
26. Bomb Alley (SSI)
27. Ulysseys (On-Line)

Continued on p.47

REAL WORLD (Cont.)

used almost four thousand variables to simulate 36 offenses against 24 defenses. However, the original version did not sell anywhere near my expectations. The most reliable advice I received admitted that the model was the most complete ever done but that the lack of graphics and sound effects made the game a poor seller. In 1981 I rewrote part of the program to create a second edition that had Hi-Res graphics and sound effects. However, without totally discarding the original design, I couldn't do much to make the game more attractive to the mass market.

Needless to say, a simulation game that includes color graphics and sound will do much better than one without such features. These things must be designed into the program from the start because of their sizable memory needs and their overall importance to the product's success. Since the realism of a model is reduced as memory is used for other things, there is a trade-off involved here. If you concentrate on the model too completely you reduce your potential audience. However, if you sacrifice too much realism you end up with an arcade game and those type games have their own design constraints and problems. Thus, you have to decide what the proper balance of realism and playability is to suit your subject, your audience and your budget. I personally prefer to write the kind of games I enjoy playing and adjust my design as needed to get the income I need.

Although this phase of game design was called "Programming", I haven't written a word about programming a computer. Computer programming is to game design as spelling and grammar are to writing. They are tools to use in accomplishing your design not ends in themselves. Also, there are many people more qualified than I am to write about programming.

Next time we will cover the last step in game design — PLAY-TESTING. ■

MOCKINGBOARD (Cont.)

phonemes, 64 of them, to create continuous speech. Phonemes are fundamental speech sounds which can be strung together to form words. A typical five-letter word may contain ten phonemes.

The demo diskette has a very limited vocabulary. It speaks one sentence and a few unconnected words. The speech is easily understandable, but it sounds very mechanical. The Cylons in Battlestar Galactica were opera singers in comparison. But it was speech. My computer was talking!!

There was no software to help the programmer create his own words, and an examination of the BASIC code for the demos provided no help. The documentation was good enough so that a determined machine language programmer, such as myself, could use it to produce spoken words. I had a fine time making the computer insult anyone who happened to be around.

THE MANUFACTURER RESPONDS

My work with the Mockingboard generated several questions which I was not able to answer. So I called Sweet Micro Systems to get them. Mr. Rod Nakamoto, the designer of the board, spoke to me. He said that a utility disk was in preparation which would contain a sound effects editor, a phoneme editor, and a method for saving phoneme strings. This disk will be included free with the Mockingboard, and those that have already bought the Mockingboard will also be eligible to receive the disk free. This answers much of my criticism of the software and documentation included with the board, but I have not reviewed this promised utility diskette, and I therefore cannot attest to its quality.

Another product which is available for the Mockingboard, and which the manufacturer was kind enough to send me, is the Text to Speech Algorithm diskette ($39.95). It will allow you to put English words into BASIC statements so that the computer will say them. It works very well, however words have to be spelled phonetically (spell chemistry with a K).

BUT WHAT ABOUT GAMES?

If you are into games, but not into programming, you may not care about producing your own speech or sound effects. You want to improve your gaming experience by adding speech and better sound effects. But you don't spend a lot of money on hardware that the game companies aren't going to support with software. It's too soon to tell yet if the Mockingboard will be well supported with game software, but at this writing two games are already out: MICROBE, by Synergistic Software, which is reviewed elsewhere in this issue, and THUNDERBOMBS by Penguin. Sweet Micro Systems reports that the following games, soon to be released, will use the Mockingboard:

Tactical Armor Assault (Avalon Hill) Crime Wave (Penguin).

BUT SHOULD I BUY IT?

The Mockingboard is for you if:

A) You are a gamer who can't wait to have your computer start talking.
B) You are a machine language programmer who wants to fool around with voice synthesis and sound effects.

C) You are writing user-friendly special purpose computer software which would be significantly enhanced by providing user instructions in spoken English, e.g. an automated bank teller.

The Mockingboard Sound/Speech I is available in many computer stores, or it can be ordered directly from Sweet Micro Systems, 150 Chestnut Street, Providence, RI 02903, for $299 + $2.50 shipping. ■

R.I.D. (Cont.)

28. Telengard (Avalon Hill)
29. Crisis Mountain (Synergistic)

ARTICLES

30. Computer Games in 1983
31. Cosmic Balance: Ship Design
32. Zork!: Review
33. Ultima II: Review
34. Latch onto Bull: Millionaire
35. Mockingboard Article
36. Epidemic: Review
37. Microcomputer Mathemagic
38. The Learning Game

MISC.

A. Your computer

B. What question would you like us to ask in a R.I.D.?

C. Other Comments

Reader Input Device

R.I.D. was prepared with the help of SPEED STAT by SoftCorp International, Westerville, OH 800—543-1350

RID#6

There were 169 R.I.D.s turned in by press time for this issue. The breakdown of users was: Apple (58%); Atari (33%); Others (9%). The mean score for RID #6 was 6.83 (our highest average yet). The scores of games evaluated in RID #6 were reduced by .46 to adjust them to the overall mean of 6.37 that has been adopted for RID score comparisons. The scores for RID #6 have been incorporated in the overall rating table below.

GAME RATINGS

The following table includes all games evaluated by our readers since May 1982. For a game to be included in this listing it must first have been offered for rating in our regular RID rating system. Games offered for evaluation are those covered in the magazine and/or have a good sales record during the time of evaluation. Once offered for evaluation the game must have been evaluated by a sufficient number of readers to be included in the results. Any game not evaluated by at least 20% of the respondents owning the machine that the game runs on were not included in the results.

Games were rated on a scale of 1 (terrible) to 9 (outstanding). Respondents were asked to consider such things as PRESENTATION (graphics, sound, packaging, documentation); GAME DESIGN (design, playability, interesting?); Life (does the game wear well?).

R.I.D. #**7** (Use card provided)

On page 46 a number of games and articles are listed for evaluation. Please take time to evaluate these games and articles. Use the guidelines above for game evaluation. Leave blank any game which you have not played enough to have formed an opinion.

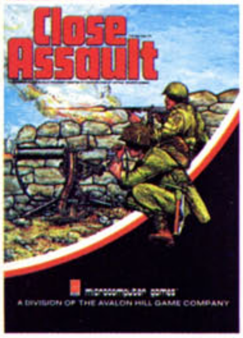
Game Ratings May 1982—March 1983

8.01	Wizardry	Sir-tech	Apple
7.52	Knight of Diamonds	Sir-tech	Apple
7.48	Guadalcanal Campaign	SSI	Apple
7.42	Ultima II	Cal Pacific	Apple
7.13	Choplifter!	Broderbund	Apple, Atari
7.08	Southern Command	SSI	Apple
7.04	Cartels & Cutthroats	SSI	Apple
7.04	Zork Series	Infocom	Many
7.03	Eastern Front	APX	Atari
7.02	David's Midnight Magic	Broderbund	Apple, Atari
7.00	Computer Baseball	SSI	Apple
6.97	Olympic Decathlon	Microsoft	Apple
6.94	Cosmic Balance, The	SSI	Apple, Atari
6.94	Shattered Alliance	SSI	Apple, Atari
6.93	Galactic Gladiators	SSI	Apple, Atari
6.93	Legionnaire	Avalon Hill	Atari
6.93	Star Blazer	Broderbund	Apple
6.92	Starcross	Infocom	Many
6.91	Castle Wolfenstein	Muse	Apple
6.91	Deadline	Infocom	Many
6.91	Warp Factor, The	SSI	Apple, IBM PC
6.86	Pursuit of the Graf Spee	SSI	Apple
6.84	Battle for Normandy	SSI	Apple, Atari
6.82	Cytron Masters	SSI	Apple, Atari
6.82	Germany 1985	SSI	Apple
6.76	Rendezvous	Edu-Ware	Apple
6.76	Shamus	Synspse	Atari
6.75	President Elect	SSI	Apple
6.73	Star Maze	Sir-tech	Apple
6.71	Dnieper River Line	Avalon Hill	Many
6.67	Computer Gin Rummy	Datamost	Apple
6.66	Napoleon's Campaigns	SSI	Apple
6.65	Escape from Rungistan	Sirius	Apple
6.61	Casino	Datamost	Apple
6.54	Ultima I	Cal Pacific	Apple
6.53	Starship Commander	Voyager	Apple
6.40	Apventure to Atlantis	Synergistic	Apple
6.40	Tigers in the Snow	SSI	Many
6.32	Raster Blaster	BudgeCo.	Apple
6.28	Temple of Apshai	Epyx	Many
6.26	Swashbuckler	Datamost	Apple
6.21	Crush, Crumble, Chomp	Epyx	Apple, Atari
6.17	Frogger	Sierra On-Line	Apple, Atari
6.16	A2-PB1 Pinball	Sub Logic	Apple
6.15	Cannonball Blitz	Sierra On-Line	Apple
6.11	A2-FS1 Flight Simulator	Sub Logic	Apple,TRS-80
6.04	Odyssey	Synergistic	Apple
6.04	Robotwar	Muse	Apple
6.02	Time Zone	Sierra On-Line	Apple
6.02	Way Out	Sirius	Apple, Atari
6.00	Bug Attack	Cavalier	Apple
6.00	Empire of the Overmind	Avalon Hill	Many
5.99	Swordthrust Series	CE Software	Apple
5.98	Protector II	Synapse	Arari
5.94	Labyrinth	Broderbund	Apple
5.83	Hi-Res Computer Golf	Avant-Garde	Apple
5.79	A.E.	Broderbund	Apple
5.79	Aztec	Datamost	Apple
5.79	S.E.U.I.S.	SSI	Apple, Atari
5.77	Snack Attack	Datamost	Apple
5.77	Torpedo Fire	SSI	Apple
5.76	Arcade Machine, The	Broderbund	Apple
5.74	Chicken	Synapse	Atari
5.71	Sea Fox	Broderbund	Apple
5.70	Serpentine	Broderbund	Apple
5.68	Andromeda Conquest	Avalon Hill	Many
5.65	Invasion Orion	Epyx	Many
5.64	Prisoner 2	Edu-Ware	Apple
5.60	Falcons	Piccadilly	Apple
5.56	Guns of Fort Defiance, The	Avalon Hill	Many
5.53	Bez-MX	Bez	Apple
5.49	Kabul Spy	Sirius	Apple
5.33	Controller	Avalon Hill	Atari
5.30	Sea Dragon	Adventure Int.	Apple, Atari
5.27	Picnic Paranoia	Synapse	Atari
5.23	Attack on EP-CYG-4	Bram	Arari
5.23	King Arthur's Heir	Epyx	Atari
5.11	Conglomerates Collide	Rockroy	Apple
5.04	Firebug	Muse	Apple
5.04	Escape from Vulcan's Isle	Epyx	Atari
5.03	Galaxy	Avalon Hill	Many
4.91	Major League Baseball	Avalon Hill	Many
4.87	Claim Jumper	Synapse	Atari
4.83	Tanktics	Avalon Hill	Many
4.69	Empire I	Edu-Ware	Apple
4.69	Frazzle	Muse	Apple
4.61	Fore!	Epyx	Apple
4.57	Crypt of the Undead	Epyx	Atari
3.75	B-1 Nuclear Bomber	Avalon Hill	Many



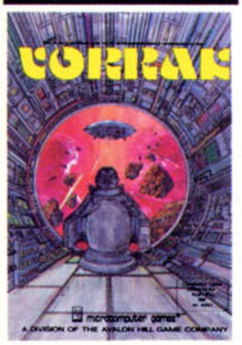
THE ALIEN—Just you, your crew, and the stars . . . are trapped with **THE ALIEN**, a creature of unknown powers loose on board a space exploration laboratory. The Alien, besides the name of this game, is a deadly foe and will metamorphose to more and more deadly forms as time goes on, so it is imperative to subdue it as soon as possible. Beautiful high-resolution graphics give you a floor plan of the research vessel, the U.F.P. Thrasbulus. Victory depends on clever planning and careful thought.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
43852								48K			28.00



CLOSE ASSAULT—Advanced wargame of tactical infantry combat. Russian, German, and American forces are represented in this WWII simulation which blends the allure of computerization with tabletop gaming. **CLOSE ASSAULT** permits original scenario development or pre-programmed ones. Features include double hidden movement, solitaire or two player option, morale factors, and most unique, a game system that actually lets you control squad level units in life-like situations.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
42201	48K	48K		40K							30.00
42251							48K				35.00
42252								48K			35.00
42253									48K		35.00



VORRAK—The Vorrakian orbital fortress beckons YOU!
Harsh sunlight glints off your datavisor as your delta-vee fighter blasts off into heroic destiny or total destruction.
VORRAK is a fast paced arcade game simulating a small jet fighters attempt to penetrate stalactite and stalagmite—like obstacles enroute to a gigantic power emerald carved out from a massive asteroid. You are of Chi Draconian heritage and your people have selected you to pierce all deadly defenses to destroy the power emerald. The last flicker of freedom around Chi Draconis rests on your shoulders.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
45053									48K		26.00



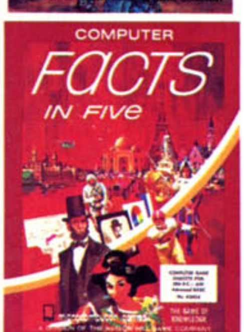
GYPSY—It's a JUNGLE OUT THERE!
Here you are a happy-go-lucky bug in the garden of your dreams perched high upon a luscious Qok tree sampling the nectar of your delight.
BEWARE!! you are not the only one who considers this paradise their home. There's the infamous Flying Ant of Tasmania, the fierce Fandango Bee and the Lochnest Spider all fueled with nasty stings and bites that will drain your energy reserves. You have to maneuver **GYPSY** through the leafy mazes of the Qok tree avoiding these and other perils.
TI99/4A version available later this spring.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
45201				16K							21.00
45253									32K		26.00



FLYING ACE—In **FLYING ACE** you play the part of a World War One bi-plane pilot, your mission . . . attack and destroy the enemy trucks carrying ammunition to the front lines. You control your plane much like an actual aircraft. Loop to loops, climbs, and dives are all essential maneuvers you must master as squadrons of enemy planes will continually "dogtail" as you become airborne.
Commodore 64 cassette available later this spring.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
45301				16K							26.00
45353									32K		31.00



COMPUTER FACTS IN FIVE—The computer game of knowledge with educational merit for the entire family. 1, 2, or more players participate selecting from more than 1,000 popular and academic subjects. The object is to associate answers with the five classes and categories selected. An entertaining sand clock timer adds challenge to the game as you race to provide the correct answers.

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
43452								48K			26.00
43453									48K		26.00
43454										64K	26.00

SPACE STATION ZULU—Humorous strategy game of space station defense. You take the role of the captain of Space Station Zulu, directing your crew of peace loving "Yargs" against an endangering concentration of larva-stage lifeforms. To combat these big, ugly, and slimy creatures the Yargs have a number of weapons at hand: laser guns, fire torches, ice bottles, and grenades to name a few. Trying to stop the ever-growing alien population makes for great fun on board Space Station Zulu.

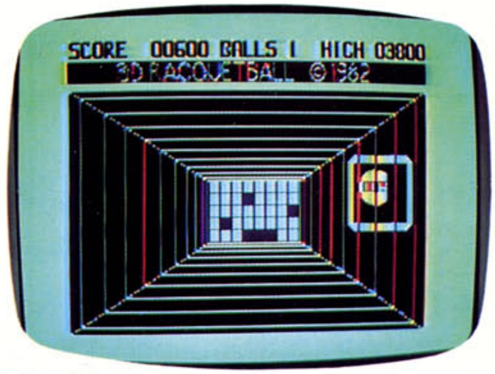
	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
44101				32K							20.00
44152								48K			25.00
44153									48K		25.00





FREDERICKSBURG—Two player tactical level civil wargame recreating the famous first battle of Fredericksburg. The game allows the players to take the roles of General Ambrose Burnsides or Robert E. Lee in leading the Union or Confederacy to victory. A giant 21" x 30" full color mapboard and over 230 illustrated counters are included with an historical rules booklet and software. The actual battle was a debacle for the Union army on that dark December day in 1861, can you uphold or alter the course of history?

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
42751							32K				35.00



BREAKTHRU (in 3-D)—Fast-action, three-dimensional, high-resolution, machine language, arcade game. But **BREAKTHRU** is more than a mere game, it's like racquetball will be played someday in space! Realistic graphics and sound provide an exciting simulation of motion and perspective. **BREAKTHRU** is as much fun to watch as it is to play. The object is to knock out five consecutive walls at the opposite end of the (racquetball) court using a joystick paddle to strike or deflect the lively ball.
Watch for the Atari VCS 2600 cartridge version available later this spring!

	With Cassette For:						With Diskette For:				
GAME NO.	TRS-80 I & III	APPLE II	CBM PET 64*	ATARI 4/800	TRS 80 Color	VIC 20	TRS-80 I & III	APPLE II	ATARI 4/800	IBM PC	PRICE EACH
43901					16K						20.00

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